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# **Planning for death in the wake of Aotearoa New Zealand's changing cultural landscape: A Christchurch case study**

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A Dissertation

submitted in partial fulfilment

of the requirements for the Degree of

Master of Planning

By

Hilary Riordan

Supervised by Jacky Bowring

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Lincoln University

Faculty of Environment, Society and Design

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## Abstract

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Accommodating the dead is a significant challenge in planning our future landscapes. Practices associated with the interment of the dead can be sensitive, as it is both a personal and cultural concern. Culture is commonly defined as an intertwining of human values, evolving from a combination of factors; including religious beliefs, ethnicity and social forms. Culture is changing across Aotearoa New Zealand, as the population diversifies and evolves, and this should be reflected in all landscapes.

This dissertation investigates what this changing cultural landscape looks like in relation to interment planning. This research has explored historic interment practices in Aotearoa New Zealand and overseas; through a literature review, local interviews with interment professionals and cultural representatives, and site visits. There is a focus on the Christchurch context as a site-specific case study. It explores the current spatial representation of these interment practices, and what this could look like in the future. To develop future scenarios for Christchurch's interment landscapes a range of factors were analysed: population, religious, and ethnic trend data; current capacity of interment sites; needs of cultural groups. Areas of compatibility and conflict have been identified through plotting core interment needs of identified cultural groups and current trends. The research reveals the need to develop sites which can be sufficiently flexible to accommodate a range of cultural needs.

**Keywords:** Interment, Planning, Cultural landscape, Burial, Cremation, Inhumation, Cemeteries, Aotearoa New Zealand, Christchurch

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# Definitions

When talking about death there are particular terms that are associated with it. Below are the terms used and explored throughout this dissertation.

<u>Term</u>	<u>Definition</u>
<b>Body</b>	“means a dead human and includes the body of a stillborn child” (Burial and Cremation Act 1964, s2(1)).
<b>Burial</b>	“the act of burying, especially the interment of a dead body” (Collins English Dictionary, n.d)
<b>Burial Ground</b>	“means a denominational burial ground or a private burial ground; but does not include a Māori burial ground” (Burial and Cremation Act 1964, s2(1))
<b>Cemetery</b>	<p>“means any land held, taken, purchased, acquired, set apart, dedicated, or reserved, under the provisions of any Act or before the commencement of this Act, exclusively for the burial of the dead generally, and, where the context so permits, includes a closed cemetery” (Burial and Cremation Act 1964, s2(1)).</p> <p>“includes any cemetery owned and/or administered by the Council, and includes a closed cemetery” (Christchurch City Council, 2013a, p. 1)</p>
<b>Cremation</b>	“means the reduction to ashes of dead bodies by burning” (Burial and Cremation Act 1964, s2(1))
<b>Crematorium</b>	<p>“a building in which corpses are cremated” (Collins English Dictionary, n.d)</p> <p>“no parcel of land shall be deemed not to be a cemetery or a denominational burial ground only because a crematorium has been erected or is proposed to be erected within its boundaries.” (Burial and Cremation Act 1964, s2(2))</p>
<b>Crypt</b>	from the Greek work kryptein, meaning to hide. Refers to an underground room or vault that is usually under a church (Colman, 1997)
<b>Columbarium</b>	“a vault having niches for funeral urns” (Collins English Dictionary, n.d)
<b>Denominational Burial Ground</b>	“means any land, outside the boundaries of a cemetery, held, purchased, acquired, set apart, or dedicated, under the provisions of any Act or before the commencement of this Act, for the burial of the dead belonging to 1 or more religious denominations” (Burial and Cremation Act 1964, s2(1))
<b>Disposal</b>	“includes burial and cremation” (Burial and Cremation Act 1964, s2(1))
<b>Disinterment</b>	“means the removal of a human body, or a container of ashes, from the earth, or any vault” (Christchurch City Council, 2013a, p. 1)

<b>Eco Burial</b>	“means the burial that has low environmental impact, including that the body has not been treated with chemical or oils that will prevent or slow down the decay of the body by bacteria (such burials may also be known as ‘green’ or ‘natural’ burials) (Christchurch City Council, 2013a, p. 1)
<b>Exhumation</b>	“to dig up (something buried, especially a corpse)” (Collins English Dictionary, n.d)
<b>Funeral Director</b>	“means a person whose business is or includes disposing of bodies” (Burial and Cremation Act 1964, s2(1))
<b>Inhumation</b>	the act “to inter; bury” (Collins English Dictionary, n.d)
<b>Interment</b>	“means the burial or disposing of a human body, or a container of ashes resulting from the cremation of a human body, underneath the earth, or in a vault” (Christchurch City Council, 2013a, p. 1)
<b>Local Authority</b>	“means a territorial authority within the meaning of the Local Government Act 2002” (Burial and Cremation Act 1964, s2(1))
<b>Monument</b>	<p>“includes any tombstone, headstone, memorial, kerbing, or other erection” (Burial and Cremation Act 1964, s2(1))</p> <p>“includes any headstone, plaque, panel, memorial, or concrete kerbing” (Christchurch City Council, 2013a, p. 1)</p>
<b>Niche</b>	“A niche is a hollow area in a wall which has been made to hold a statue (remains), or a natural hollow part in a hill or cliff” (Collins English Dictionary, n.d)
<b>Private Burial Ground</b>	“means a parcel of land declared to be a private burial ground under the provisions of the Cemeteries Amendment Act 1912” (Burial and Cremation Act 1964, s2(1))
<b>Religious Denomination</b>	“means the adherents of any religion and includes any church, sect, or other subdivision of such adherents” (Burial and Cremation Act 1964, s2(1))
<b>Secular</b>	“not concerned with or related to religion” (Collins English Dictionary, n.d)
<b>Urupā</b>	the Māori name for Māori burial grounds. The Burial and Cremation Act 1964, however only uses the term ‘Māori Burial Ground’ which it defines as “any land set apart for the purposes of a burial ground under section 439 of the Māori Affairs Act 1953 or any corresponding former provision” (Burial and Cremation Act 1964, s2(1))
<b>Vault</b>	“means a structure approved by the Council for the deposit of specially sealed coffins containing a human body, or containers of ashes resulting from the cremation of a human body”.(Christchurch City Council, 2013a, p. 1)

# 1. Introduction

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Planning for death and the practices associated with the interment of the dead is derived from both personal and cultural concerns. Culture is commonly defined as an intertwining of human values, evolving from a combination of traits that includes religious beliefs, ethnicity and social forms. Aotearoa New Zealand's cultural landscape has continued to change since it was first settled by Māori ancestors, over one-thousand years ago (Higgins, 2010; Schwass, 2005; Waimarie Nikora, Masters-Awatere, & Te Awekotuku, 2012). The cultural landscape changed even more rapidly during the Colonial settlements in the 1800's, and since then it has continued to evolve. The change has been due to an increased mix of ethnicities and religions entering Aotearoa New Zealand. There is also a more recently emerging trend, with people identifying as having 'no religion' (Smith, 2013; Vaccarion, Kavan, & Grendall, 2011; Ward, 2016). Accommodating cultural interment practices and spatial requirements of the dead is a significant challenge in planning our future landscapes.

This dissertation investigates what this changing cultural landscape looks like through the eyes of interment planning. It draws on religious identification through census data, as well as a broader discussion about Aotearoa New Zealand's cultural identities. The research investigates the historical context of interment practices internationally and within Aotearoa New Zealand. It surveys the current spatial representation of these practices in cultural groups within Christchurch. The research also considers what this cultural landscape could look like in the future.

Christchurch was chosen as the focus case study due to its recent media attention, in relation to burials (Law, 2016a, 2016b; Penman, 2017). Cemetery space in Christchurch City is becoming

limited; out of the thirteen Council operated cemeteries within the city, four have been closed and five are only open for burials of pre-purchased plots (Law, 2016b). This leaves only four functioning cemeteries to serve the growing Christchurch population. Planning is essential in future proofing interment sites, taking into consideration cultural and environmental changes (Fensome, 2015). Through this research, some insights have developed which may be useful to other locations within Aotearoa New Zealand.

## 1.1 Aim

The aim of this study is to:

- gain an understanding of what interment practices cultural groups desire,
- show how current practices reflect Aotearoa New Zealand's cultural diversity, and,
- consider how this could be represented in future interment landscapes.

## 1.2 Questions

Questions this research set out to answer:

1. What historic, and traditional interment practices do cultural groups have?
2. How is Aotearoa New Zealand's cultural diversity represented in Christchurch's interment practices?
3. What is the planning framework that governs interment practices in Christchurch?

4. How can we plan for future interment landscapes, in ways which anticipate future patterns of cultural practices in Aotearoa New Zealand, particularly for the city of Christchurch?

### **1.3 Methods and Analysis**

This dissertation uses a variety of methods for data gathering and analyses. Information gathered from literature, the 2018 Cemeteries and Cremation Conference, and local interviews have been integrated throughout this dissertation.

#### *1.3.1 Ethics and Interviews*

This research concerns cultural interment practices. Due to the potentially sensitive nature of this topic Human Ethics approval was obtained. The process of preparing for Human Ethics approval contributed to the development of the interview approach and consideration of chosen participants. The Human Ethics approval letter is in Appendix A.

#### *1.3.2 Conference*

The Cemeteries and Cremation Collective of New Zealand's conference, titled 'Cemeteries and Cremation Conference: Looking to the past, present and future', provided an important opportunity to gain some significant insights into interment trends internationally and within Aotearoa New Zealand. This was held in Christchurch on the 11<sup>th</sup> -12<sup>th</sup> of April 2018. The conference discussed the effect of the Christchurch earthquakes, industry developments, and current issues. This conference presented the following relevant topics for this dissertation:

- 'Ethnic burials: The Muslim Point of View' (Al-Salim & Waja, 2018)
- 'Christchurch Earthquakes Immediate Response' (Smith, 2018a)
- 'Green Burials: The City Alternative' (Smith, 2018b)
- 'Digital and Social Media Strategies for Cemeteries and Crematoria' (McLean, 2018)
- 'Relevance in the Era of Digital Natives' (Lutterman, 2018)
- 'Cremations in the 21st Century' (Thomson, 2018)
- 'What's Happening in Australia and What can we Learn?' (Thomas, 2018)
- 'New Zealand and International Trends' (Raudon, 2018)
- 'Epidemic Emergencies' (Manning, 2018)
- Update on the Implementation of the Government's Response to the Law Commission's Review of Death, Burial and Cremation in New Zealand (Gilbert, 2018)

#### *1.3.3 Information Analysis*

Three theoretical methods have been used in this research and have directed the formation of informed recommendations for future interment practice in Christchurch. These methods were: coded themes, principles for regional design, and scenario planning.

Coded themes' is a method highlighted by landscape architects Deming and Swaffield (2011). Coding qualitative data is the use of a word or short phrase that encapsulates the main essence of the section of text or visual data. These words are then grouped together to find common trends and connections between various qualitative data (Deming & Swaffield, 2011; Saldaña, 2016). This method was used to analyse both the literature and the semi-structured interviews gathered for this research. The literature was both international and local, and due to the nature of this topic, it was often descriptive,

discussing individual experiences with interment. Semi-structured interviews were conducted with professionals, who have a working knowledge of interment practices in Christchurch, including religious authorities, a funeral director and a cremations manager. Six interviews were completed, each interviewee had the option to be anonymous if they wished:

- Funeral director, (Capill pers comm, 2018)
- Crematorium general manager, (Terry pers comm, 2018)
- Muslim Representative Dewhirst and Imam Founda, (Dewhirst & Founda pers comm, 2018)
- Anglican Reverend, (Carley pers comm, 2018)
- Hindu temple manager, (Das pers comm, 2018)
- Local iwi member who has chosen to remain anonymous, (Anonymous pers comm, 2018)

Interview questions are attached in Appendix B. All this material including information from the conference, professional insights and experiences on interment practices were coded. These themes helped structure this dissertation.

Principles for regional design methodology was originally proposed by Hough (1990), a landscape theorist. Two of these principles are key to this dissertation; ‘knowing the place’ and ‘environmental learning and direct experience’. These principles guided the physical site analysis of Christchurch’s interment landscapes. Site visits provided a direct experience of the environment, evidence of interment practices undertaken, and cultural markings. Geographic Information System (GIS) mapping aided in knowing the interment locations and their cultural surroundings. Spatial assessments of a selected sample of interment sites in Christchurch, looking at the landscape’s layers of history, culture and processes, were completed. Analysis of Christchurch’s cultural

demographics helped to assess recent changes in preferred interment styles, within this complex landscape.

Scenario planning has been used to interpret results. Scenario planning provides a conceptual framework for interdisciplinary development for design and planning practice (Jonas, 2001). Scenarios are the possible, probable, preferable, and undesirable futures. This research followed the Quattro Stagioni model (Jonas, 2001), which frames four scenarios outlined from two variables with extreme states. This model helped to plot, justify, and identify areas of potential outcomes which may not have been initially considered. From these models’ recommendations have been made on future interment practices, and landscapes.

## **1.4 Structure**

This research explored how we can plan for future interment landscapes, in ways which anticipate future patterns of religious and non-religious interment practices in Aotearoa New Zealand. Chapters one to four provide background research. Chapter one introduces the research topic. It provides the background information to why this research for planning is significant. It outlines the methods that have been integrated throughout this dissertation. Chapter two focuses on Aotearoa New Zealand’s cultural context, providing an overarching view of Aotearoa New Zealand’s unique cultural history. It explores literature related to the past, present and future make-up of Aotearoa New Zealand’s cultural landscape. This provides the setting for research into cultural and interment practices internationally and which could apply within in the Aotearoa New Zealand setting.

Chapter three’s focus is on international interment practices. This research reviews literature looking at innovative practices like

natural burials, how different countries have responded to changing contexts in terms of the mix of religions, and practices that are not based on religion. Chapter four looks at Aotearoa New Zealand's cultural landscape through the eyes of interment practices, with a focus on religious landscapes. This history highlights traditional Māori interment practices. It also outlines the practices that currently occur in Aotearoa New Zealand.

Chapters five and six provide analysis. Chapter five analyses the current interment landscape within Christchurch. It focuses on landscape features and plot orientations of a sample of interment grounds. Chapter six summarises current issues within the interment industry. It ties together the information sourced and explores a range of scenarios of interment practices and styles. These outcomes could potentially be applied throughout Aotearoa New Zealand.

Chapter seven presents conclusions and recommendations for future interment practices. It also highlights areas for further study.

## 2. Cultural Context of Aotearoa New Zealand

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This chapter provides an overarching view of the development of Aotearoa New Zealand's culture, and how this reflects the culture of Christchurch. Cultural context is fundamental to this dissertation, as it provides direction for interment practices, which are discussed in the following chapters. This chapter is a literature-based analysis of Aotearoa New Zealand's history and its cultural changes to the present day. Present day culture is analysed through Statistics Aotearoa New Zealand's census data from the last three censuses; 2001, 2006, and 2013<sup>1</sup>.

### 2.1 History

Around one thousand years ago the first great Polynesian voyages brought Māori ancestors to Aotearoa New Zealand (Higgins, 2010; Schwass, 2005; Waimarie Nikora et al., 2012). Since these voyages, Aotearoa New Zealand's culture has been continually shaped by immigrants. Traditional Māori settlements, marae, were positioned in prime areas to take advantage of environmental resources that were available to them. The landscape formed an indispensable part of Māori identity and ancestry (Higgins, 2010). Marae are highly organised systems laid out with communal open space, cooking and food storage, meetinghouses, sleeping areas, gardens, and a urupā (cemetery). Traditions and knowledge were passed orally to younger generations, through stories and songs. Aotearoa New Zealand and its inhabitants lay undiscovered by the western world for hundreds of

years until 1642, when the Dutch navigator Abel Tasman first sighted the land.

In 1769, Captain James Cook reached Aotearoa New Zealand, and from the eighteenth century, British explorers regularly visited. Colonialists were attracted to Aotearoa New Zealand with the promise of land, gold, and a temperate climate. They brought with them exotic produce, religion, customs, and planning ideals. Christian missionaries, between 1814 and 1840, played a key role as mediators between Māori and Europeans (Lineham, 2014). In 1840 the British Empire established itself in Aotearoa New Zealand through the signing of the Treaty of Waitangi with Māori. Between 1831 and 1881, the European population increased by "50,000 per cent" while there was a decrease in Māori population (Schwass, 2005, p. 53). This European population influenced and dominated the cultural context of Aotearoa New Zealand, including interment practices. In the 1890s there were significant numbers of non-British migrants entering Aotearoa New Zealand, including Indians from Gujarat and Punjab; along with Lebanese, and Dalmatians (Schwass, 2005). This influx of diverse cultures did little to significantly change interment practices in Aotearoa New Zealand.

The aftermath of World War One (WWI), in the 1920s, changed Aotearoa New Zealand's immigration profile. While British immigrants continued to arrive, even more were returning home to British shores. Refugees from Yugoslavia, Greece and Poland were also accepted into Aotearoa New Zealand after the war (Schwass, 2005). Despite this

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<sup>1</sup> Though a census was under taken in 2018, the information was not released to the public in time to be included in this dissertation.

growing diversity, immigrants in the 1950s felt the needed to suppress their cultures; feeling that they were “only welcomed if they fitted in” (Schwass, 2005, p. 55). Though culture in Aotearoa New Zealand was diversifying, traditional European cultural views, typical Catholic and Christian, continued to dominate. In 1974, Aotearoa New Zealand called for skilled immigrants and workers were drawn in from Netherlands, Austria, Switzerland and Germany; Soviet refugees were accepted from Hungary and Czechoslovakia (Schwass, 2005). This further changed Aotearoa New Zealand’s cultural diversity.

Aotearoa New Zealand’s cultural diversity has continued to evolve. More recently Muslim and Hindu cultural groups have become more prevalent, between 1996 and 2001 their numbers increased by more than fifty per cent (Schwass, 2005). Throughout the twentieth century and into the twenty-first century, Aotearoa New Zealand’s religious landscape continued to diversify, including movements away from religion.

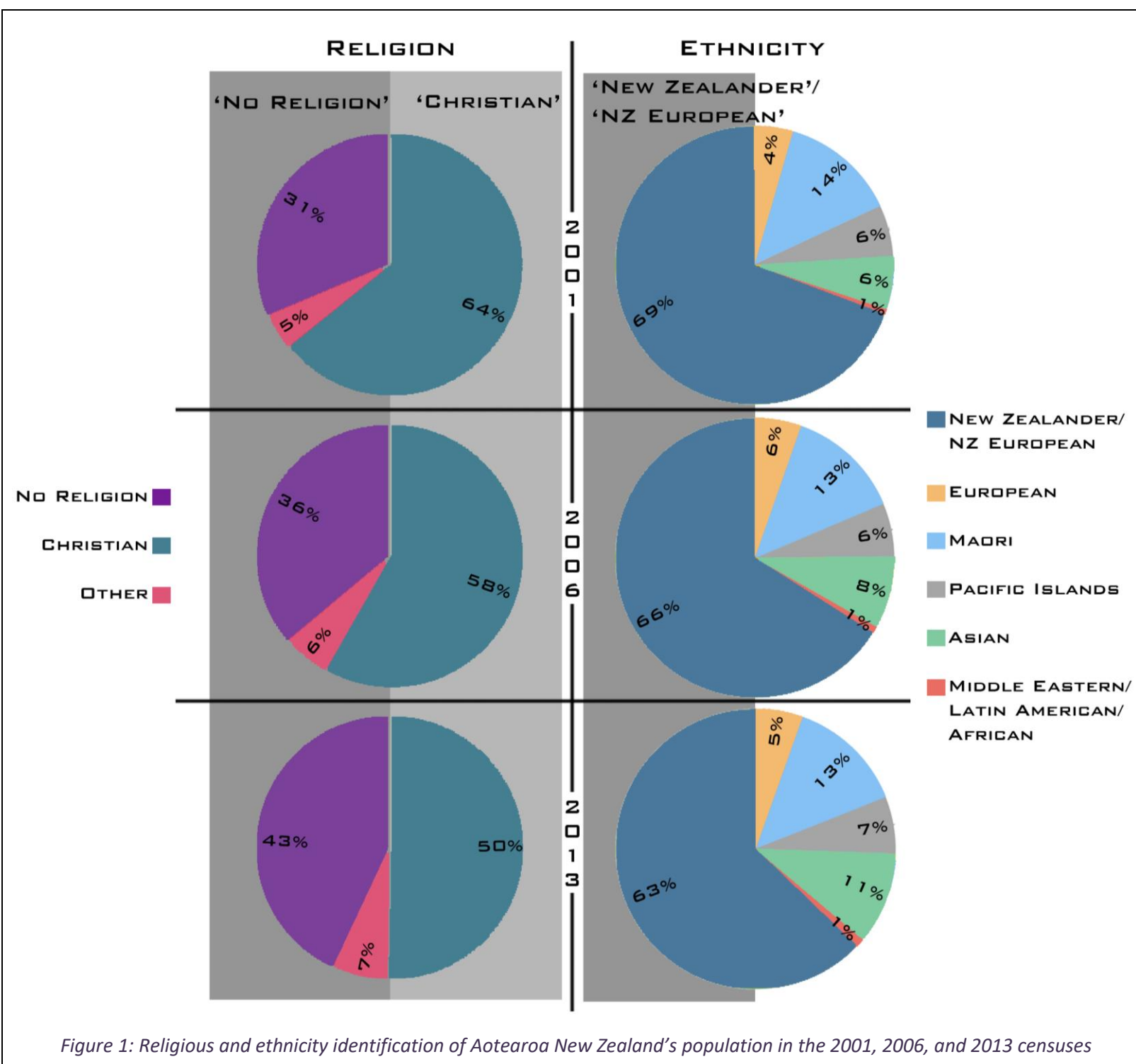
## ***2.2 Aotearoa New Zealand’s Current Cultural Context***

Literature and statistics show that Aotearoa New Zealand’s cultural landscape is changing and there is a growing trend towards non-religious association. This trend was first recognised in 1966 when a decline in young people attending church emerged (Ward, 2016). Aotearoa New Zealand is one of the few countries that is listed as having no official religion (Vaccarion et al., 2011). It is also a country which supports the freedom of religion and the ability to practice that religion. This freedom is officially recognised in the New Zealand Bill of Rights Act 1990. Ward (2016), believes, from his findings, that religion could one day completely disappear from Aotearoa New Zealand. However, Smith (2013) argues that even though, in recent years, more people are identifying with having ‘no religion’, New Zealanders are

not becoming less religious, but more secular. This means that even though people may not belong directly to a religious institution they continue to have religious beliefs (Vaccarion et al., 2011). Vaccarion et al. (2011) and Smith (2013) articles were based on findings from the International Social Survey Programme. This survey programme has internationally conducted three religious based surveys, 1991, 1998, and 2008, in which Aotearoa New Zealand has participated. The Government runs its own national survey of its population, through the five-yearly census.

Since 1851, Aotearoa New Zealand has run a regular nationwide census of its population, collecting a variety of statistics to gain an overarching image of Aotearoa New Zealand’s culture and needs. Questions regarding a person’s religious affiliation and ethnic identity are cultural elements that provide insight into Aotearoa New Zealand’s interment practices now and in the future. Society is a complex mix of culture, whether defined through its religion, spirituality, or social status. Interment practices can vary through cultural groups where religious affiliation and ethnic identity intertwine. Figure 1 summarises the national ethnic and religious identification data collected from the three recent censuses: 2001, 2006, and 2013 (Statistics New Zealand, n.d.). These census results mirror the International Social Survey Programme’s religious survey findings. The results show a distinctive increase in Aotearoa New Zealand’s population identifying with having ‘no religion’. It also shows a subsequent reduction in people who identify as having a Christian-based religion. Those identifying with ‘other’, non-Christian-based, religions have increased since 2001. The increase in ‘other’ religions, could be reflecting changes in Aotearoa New Zealand’s ethnicities. Since 2001, those identifying as ‘New Zealander’ or ‘New Zealand European’ has decreased, while there has been a notable increase in Asian ethnicities.





There are three main cities in Aotearoa New Zealand: Auckland, Wellington, and Christchurch. Auckland has the largest population, with 1,415,550 people (Statistics New Zealand, n.d.). Christchurch is often considered as the third largest city, while Wellington, the capital, is often mistaken to be the second largest city. Even with Christchurch experiencing major earthquakes in 2010 and 2011, which resulted in a displacement of its population and delaying the national census, its population is larger than Wellington. In 2013, Christchurch's population of 341,469 people, was nearly double that of Wellington's population of 190,959 people (Statistics New Zealand, n.d.). Figure 2 shows the religious identification of these three cities in the last three censuses (Statistics New Zealand, n.d.). The increasing trend of identifying with having 'no religion', is mirrored in each major city. Auckland has the largest percentage of its population identifying with other religions. Wellington, though its population has had a consistent 'other' religion identification, was the first major city in Aotearoa New Zealand to have less than fifty per cent of its population identifying with a Christian-based religion. Compared with the other two major cities, Christchurch has the smallest population identifying with 'other' religions. However, it does follow similar trends as the other cities with an increase in 'no religion' and a decrease in 'Christian-based' religions.

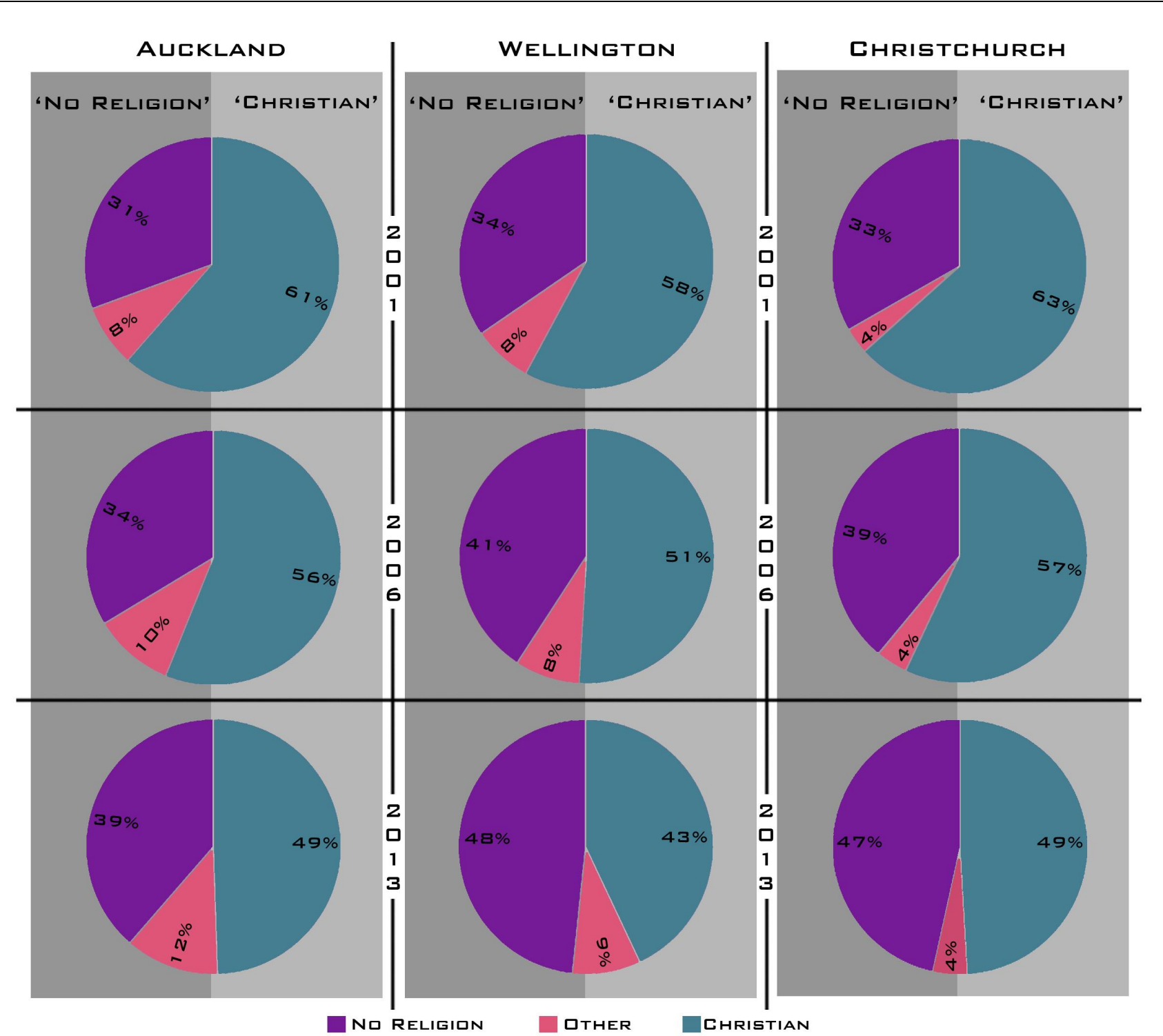


Figure 2: Religious identification of Aotearoa New Zealand’s main cities in the 2001, 2006 and 2013 censuses

### ***2.3 Christchurch's Cultural Context***

Christchurch and the wider Canterbury region was inhabited by Māori 600-700 years ago (Wilson, 2015). They commonly lived along the coast or close to wetland areas, where food was abundant (Wilson, 2015). Today there are a number of marae still located within the Christchurch City Council's district, including Rehua Marae, Nga Hau E Wha National Marae, and Wairewa Ōnuku Marae. The next significant wave of settlement was the arrival of the European immigrants. The passenger vessel 'Charlotte Jane', on the 16<sup>th</sup> of December 1850, signified the first official settlement dates for the Canterbury Association from London (Bruce, 1932). Settlement of Canterbury continued, and Christchurch grew into a large urban community surrounded by small rural settlements. In 2006, the Banks Peninsula District Council amalgamated into the Christchurch City Council (Christchurch City Council, n.d-b), expanding the territory of Christchurch to include a large rural and hilly landscape.

Figure 3 compares Christchurch's populations religious and ethnic identification from the last three censuses (Statistics New Zealand, n.d.). Christchurch's population has been increasingly identifying with having 'no religion', while identification with 'other', non-Christian-based, religions have remained a constant four per cent. The data also reveals, like national trends, that fewer people in Christchurch are identifying as either a 'New Zealander' or 'New Zealand European'. However, this decrease has not created an increase in other religions. This plateau of 'other', non-Christian-based, religions over the last three censuses could be one flow on effect from the earthquakes; as Christchurch has been unable to accommodate refugees for the last eight years (Lees-Galloway, 2018).

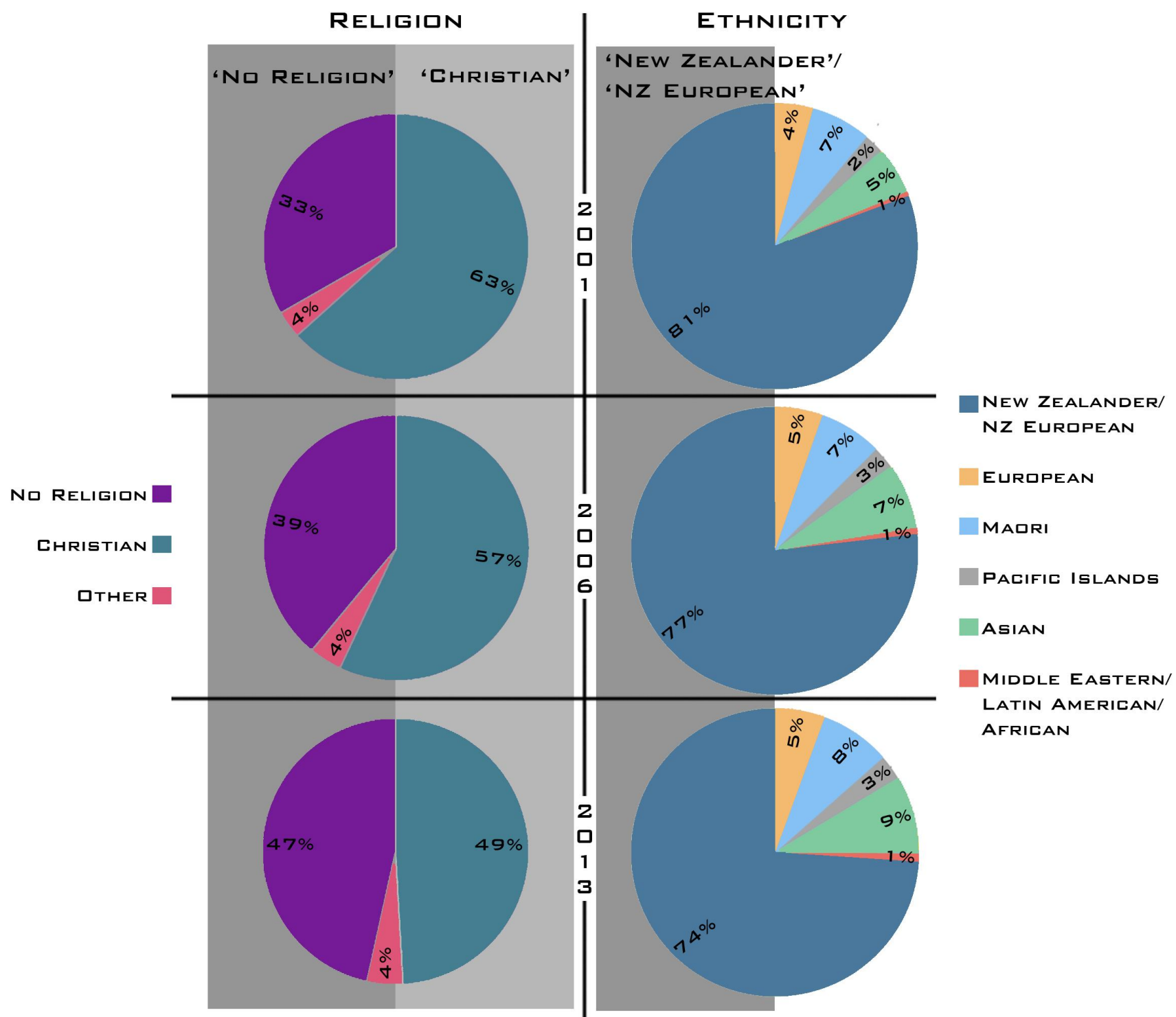
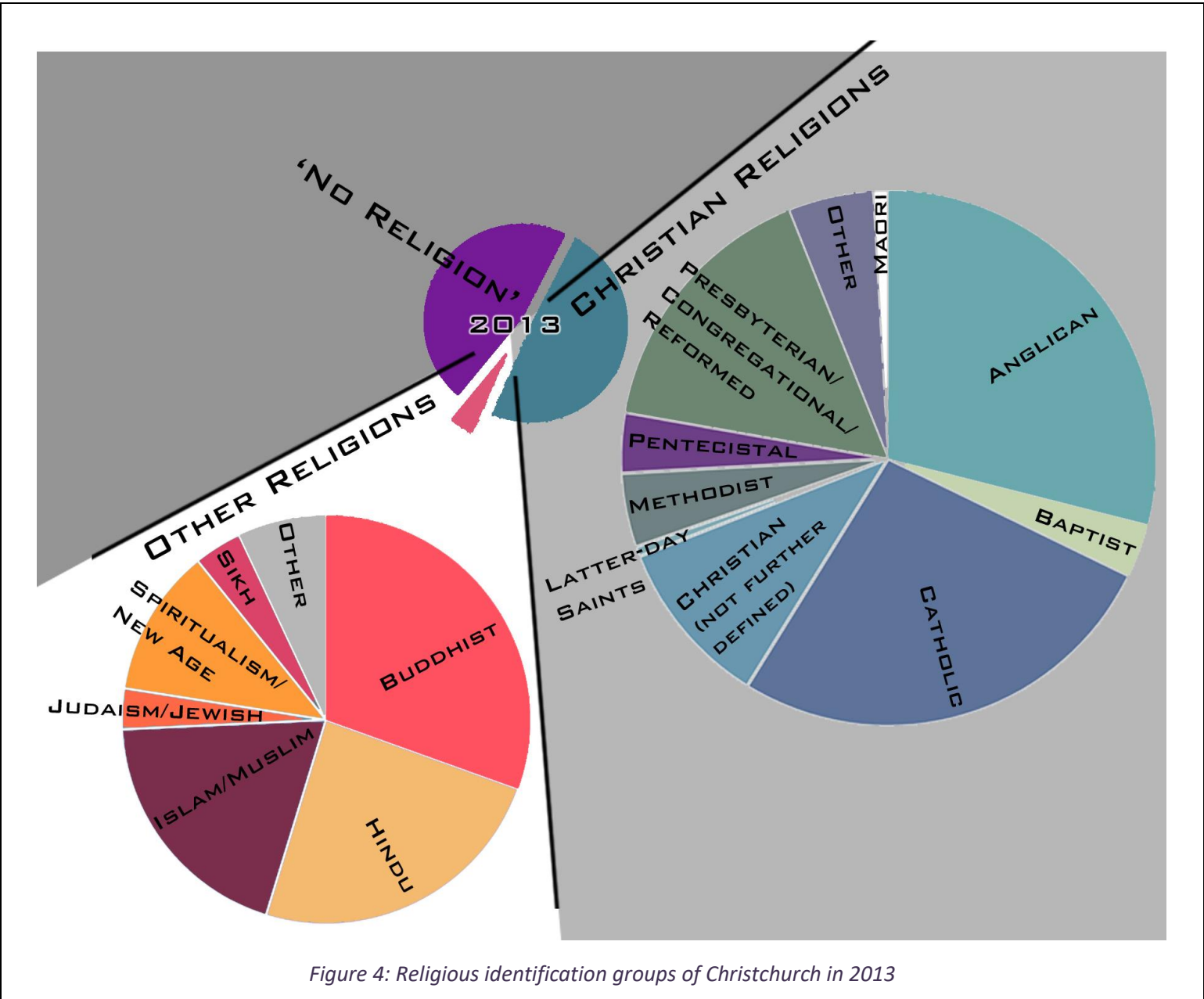


Figure 3: Religious and ethnicity identification of Christchurch's population in the 2001, 2006, and 2013 censuses

Figure 4 expands on the proportions of religious identification for Christchurch in 2013 (Statistics New Zealand, n.d.). Christian religions section is made up of ten defined denominations, the largest being Anglican and Catholic. The smallest Christian-based denomination is titled Māori, which is a combination of three Maori practices; Ratana, Ringatu and Māori Christian. ‘Other’, non-Christian-based religions, though it only makes up four per cent, it is a combination of seven religious groups. The three largest ‘other’ religion groups are; Buddhist, Hindu, and Islam/Muslim.



## ***2.4 Cultural Context Summary***

Aotearoa New Zealand's cultural landscape has evolved and is continuing to change. The initial phases of the European settlement were strongly monocultural, even going as far as suppressing other cultures, particularly the indigenous Māori. However, Aotearoa New Zealand's cultural landscape has developed as the diversity of immigrants has increased, bringing with them their own cultures. Over time, these new cultures have been increasingly celebrated, and this diversity should be reflected through the entire human life cycle, including interment.

There is also a trend of fewer people identifying with a Christian-based religion, and more are identifying with having 'no religion'. This no religion trend has also been recognised as a secular society, as they may have religious values, even though they do not fully recognise them. All these cultural changes and their interment practices need to be considered when planning Aotearoa New Zealand's future interment landscapes. Christchurch has had a stable 'other' identification but as it recovers from the earthquakes this would likely increase.

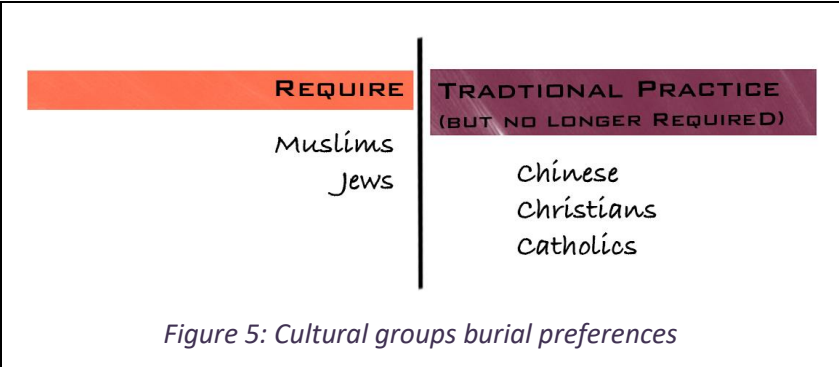
### 3. International Interment Practices

Interment under the Christchurch City Council’s Cemetery Bylaw “means the burial or disposing of a human body, or a container of ashes resulting from the cremation of a human body, underneath the earth, or in a vault” (Christchurch City Council, 2013a, p. 1). International literature shows that cultures, ethnic groups, religious groups, and countries approach interment with differences; some of these are small, while some are significantly different. The information surrounding interment practices is vast, therefore this chapter focuses on those that are particularly appropriate or relevant to the Aotearoa New Zealand setting. It also provides some insight into interment practices that could be adopted, as well as issues that have arisen internationally and could reflect or anticipate issues emerging in Aotearoa New Zealand.

#### 3.1 Inhumation and burial

Commonly inhumation is the act of returning the body to the earth, in-ground burials. However, burial also refers to the interment of whole bodies that do not make physical contact with the earth. Often this occurs in vaults, tombs or crypts, spaces which isolate the body from the earth. For some cultural groups, inhumation is an essential part of their interment practices. Jews, Chinese and Muslims are some of the cultures that traditionally practice inhumation of their deceased (Colman, 1997; Kong, 2011). Inhumation and burial were popularised by the Christians, as cremation was seen as a Pagan practice by Greco-Roman cultures (Colman, 1997). By 400 C.E inhumation had completely replaced cremation in Europe, except in times of plagues and war (Colman, 1997). Through this research some cultural preferences became apparent. Figure 5 provides a summary of the

cultural groups that traditionally required burial but no longer do, and those that were identified as still requiring burial.



There is a wide range of preferences for inhumation and burial practices; location, style, and directions can vary between each culture. This section provides a summary of key inhumation and burial practices.

##### 3.1.1 Interment Landscapes

Interment landscapes are spaces where interment occurs, these are highly varied. They function as communicative symbolic practices that express individual and collective ethnic and cultural identities (Reimers, 1999). The most common interment landscapes are usually labelled as ‘burial grounds’, ‘churchyards’, or ‘cemeteries’. These terms are commonly used in literature, but they are not often clearly defined. The term ‘cemetery’ is often used on the assumption that they constitute a specific type of burial, commonly inhumation (Rugg, 2000). The term cemetery was born from the Greek word ‘koimētērion’, meaning sleeping place or dormitory (Deed, 2015). Cemeteries are commonly defined through a physical perimeter boundary This can be through built structures such as fences and



railings, or through plantings, such as hedges (Rugg, 2000).

Churchyards are managed and located close to its associated church, they are often smaller than cemeteries. Cemeteries are large in scale, are predominately owned by secular authorities and have only been in common use since the nineteenth century (Rugg, 2000).

During the eighteenth and nineteenth centuries bodies were deemed a health risk to the public. This perceived danger resulted in some churchyards being moved to the outskirts of towns (Rugg, 2000). Cemeteries were commonly located close to but not necessarily within settlements, many were originally laid a kilometre away from the populated town centres (Rugg, 2000). This allowed for cemeteries to be large. In Australia and the United States, it is common to have cemeteries double their original size and span nearly twenty hectares (Rugg, 2000). However, many older cemetery sites have now been surrounded by urban sprawl and land availability is limiting the creation of new cemeteries (Kong, 2011; Rugg, 2000).

The early nineteenth century saw a key change in Western interment landscapes with the development of Père Lachaise in Paris (Deed, 2015). Opening in 1804, it was an archetypal cemetery of the 'picturesque' style, a movement of style that would span across the globe, including Aotearoa New Zealand (Deed, 2015). It set the burial landscape style that is most common today: "a private burial in perpetuity, in a marked grave with a permanent monument to the family or individual" (Deed, 2015, p. 21). Cemeteries in the United States moved away from the 'picturesque style, evolving into 'rural cemeteries' (Deed, 2015). In rural cemeteries, the emphasis was placed on the woodland greenspaces rather than monuments and individual grave enclosures were restricted (Deed, 2015).

Burial plots occupy space and finding room for burying the dead is an issue all over the world. In Sydney, Australia, a shortage of

burial space is affecting, in particular, the Jewish, Muslim and Christian based communities (Collins, 2018; Power, 2018). Only fifty Muslim burial plots remain in the Riverstone Cemetery, Sydney, and this has resulted in a collaboration with a Catholic group agreeing to provide space for Muslims at their Kemps Creek Cemetery (Power, 2018). One way of dealing with issues of space is to construct mausoleums, which are buildings designed to include many niches for human remains. In Ancient Greek and Roman cities, mausoleums were placed within cemeteries. They were considered important features which lined the roads leading into and out of towns, often taking the forms of tombs (Deed, 2015).

There is a long tradition of human remains being entombed or placed above the ground in built structures labelled as; mausoleums, tombs, or crypts (Colman, 1997). The Ancient Romans built mausoleums big enough to hold seven hundred bodies (Colman, 1997). However, mausoleums were also built for individual families, as symbols of wealth, status and family connections. For example, the Taj Mahal is a mausoleum built for the Empress Mumtaz Mahal. In the twelfth century, people built lavish mausoleums for themselves and their family in Campo Santo, Pisa, Italy (Colman, 1997). A huge mausoleum was built in Tiananmen Square for Mao Zedong, founder of the People's Republic of China, who died in 1976 (Colman, 1997). Historically, mausoleums were typically built by, and for, the wealthy, but in the late 1800s community mausoleums appeared (Colman, 1997). In a community mausoleum, individual bodies could be entombed in an individualised compartment, called a crypt. This was a new use of the term, crypt, that originally referred to an underground room or vault, that was usually under a church, where the wealthy and religious leaders wait for God (Colman, 1997; Deed, 2015). Today mausoleums have places for both full bodies and cremated remains (Colman, 1997).

Ossuaries and catacombs are commonly underground interment grounds. Catacombs were replaced by above ground interment grounds in the fourth to sixth centuries (Brink, 2008). Though they were continued to be visited until the nineteenth century when the majority of them were completely abandoned (Brink, 2008).

### 3.1.2 Directional Burials

In the presence of a cemetery, burial ground, or churchyard it is notable that most graves lie in the same orientation. It can be evident in many interment landscapes, old and new, and this may be done consciously by cemetery managers, planners, or based on plans that were set years ago (Kolasa, 2013).

In China, the traditional practice of Fengshui strongly influenced the design and layouts of their cemeteries (Kong, 2011). Nevertheless, the most popular directional burial is the west-east orientation, as burying the dead in this orientation is a tradition that crosses many religions and cultures (Verse by Verse Ministry International, n.d). An eastward directional burial, where the feet face east, has been traced back to some of the earliest religions who connected several practices around solar events, including Pagan cultures (Kolasa, 2013; Verse by Verse Ministry International, n.d). Christian-based religions are a notable cultural group that traditionally bury their dead in this direction [Figure 6].

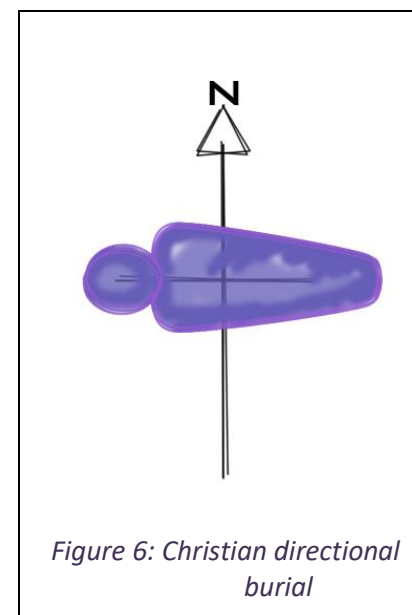


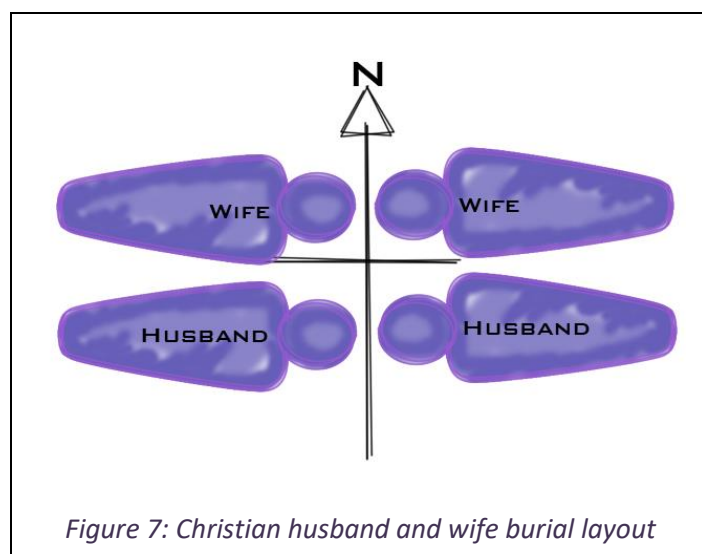
Figure 6: Christian directional burial

The basis on which this tradition stems from is debatable. In the Catholic community, Father Doyle (2013) stated that the only thing that comes close to referring to a reason for this orientation, is in the Roman Ritual of 1950 (no longer in effect), where it directed that in burials the feet of the body must be placed towards the main altar. However, another view is that there are two bible verse that connect to the eastward direction:

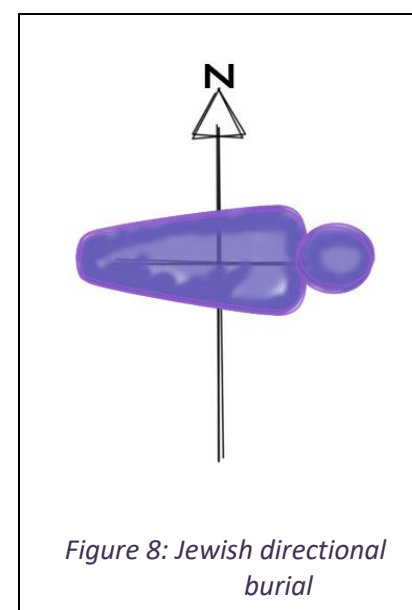
**“Matthew 24:27 For as lightning that comes from the east is visible even in the west, so will be the coming of the Son of Man, and Ezekiel 43:1-2 Then the man brought me to the gate facing east, and I saw the glory of the God of Israel coming from the east.” (Kolasa, 2013),**

Whatever the reason might be, the core idea is that at the end time, Jesus would return from the east and the dead would be able to rise to greet him (Brubaker, 2010; Doyle, 2013; Verse by Verse Ministry International, n.d).

Another factor which has influenced Christian graves is the tradition of burying spouses in plots side-by-side (Brubaker, 2010; Kolasa, 2013). To reflect the couples wedding day, the husband is on the left and the wife on the right (Kolasa, 2013). However, some Methodists, always s bury the man on the right regardless of which way the headstone faces (Brubaker, 2010). This ensures that the couple when they rise out of the ground for the rapture<sup>2</sup> will be standing as they were when married [Figure 7] (Brubaker, 2010).



Directional burial is also reflected in Jewish traditions, where the synagogue's congregation at worship looks together towards Jerusalem (Doyle, 2013). The bodies are laid in a westward direction, opposite to the Christians [Figure8].



Muslims are another cultural group that has a desired burial direction. Wherever they are in the world they desire to face Mecca. Mecca is their holiest city of Islam, this ensures that they are ready for the final judgement day (Colman, 1997). This can be a challenge within cemeteries which are designed with different orientations, and one example is in Oak Hill Cemetery in Nyack, New York. In this cemetery Muslims buy several plots to enable the body to lie toward Mecca, as the plots all face east-west (Colman, 1997). Muslim burial is discussed further in Chapter 4.

### 3.1.3 Burial Mounds

Burial mounds, also known as tombs, are large earth forms, where rock and soil have been placed on top of a grave making it protrude into the landscape. They have been found throughout the world and have been created by many cultures (Matthews, 2010; Putnam, 1883; Sutton, 2018). Burial mounds commonly have a final layer of soil,

<sup>2</sup> "in some Christian theologies, the bodily ascent into heaven just before Armageddon of those who are saved" (Collins English Dictionary, n.d).

where grass can grow, while tombs, like the pyramids in Egypt, tend to be made of pure stone or rock. Burial mounds can be created for individuals, or for mass graves (Matthews, 2010). Aboriginal burial mounds in Australia, called Mapoon Burial Grounds, have recently been discovered (Deccan Chronicle, 2018; Sutton, 2018). Though some cultures, like in South Korea, continue to inter their dead in burial mounds (this practice was observed first hand). There is also an interest in Britain to create modern variations of burial mounds, where interred bodies or remains can be kept within a crypt in a communal mound (Kennedy, 2016).

#### *3.1.4 Natural Burial*

A natural burial is where nature is the key element of the burial landscape. Plots are either marked with a natural element, such as a tree or rock, or no markings are present. However, there are commonly no set definitions of what ‘natural burial’ or ‘eco-burial’ consists of, and this has posed different and changing interpretations (Hockey, Green, Clayden, & Powell, 2012). Natural burials allow and generally encourage decomposition of the body to occur. This places restrictions on preservation methods of the body, to reduce chemicals being introduced into the ground (Hockey et al., 2012).

Natural and eco-burial concepts emerged in Europe in the 1990s (Clayden, Green, Hockey, & Powell, 2017; Hockey et al., 2012). This late arrival of this burial practice can be traced to the human perception that before the seventeenth century ‘nature’ was an undesirable environment (Hockey et al., 2012). Humans love to manipulate their environment, and this is implicit within the cemetery landscape where users are able to locate specific graves (Rugg, 2000). However, in a natural burial, the ability to locate a specific grave is

often removed as the land for burial is indistinguishable from its surroundings.

Doughty (2016) suggests that natural burials could be a way to expand natural preservation areas, as once a body is located on site it is harder to develop. Other research has been undertaken to create a ‘re-composition’ system which further accelerates the bodies’ decomposition and a ritual could be developed around this practice (Spade, 2016).

#### *3.1.5 Sea Burial*

Sea burial is the interring of bodies in the ocean. Historically, bodies were placed within lead coffins, however, today some countries have placed restrictions on the material used and even the chemical state of the body (Australian Government, n.d; Bell, 2016). Interring bodies in the ocean decomposes them four times faster than on land, as marine animals commonly feed on the body (Colman, 1997). If the water is warm or polluted decomposition occurs even faster (Colman, 1997).

#### *3.1.6 Exposure Burial*

Though this expression includes the term ‘burial’ no burial of the body physically occurs. Instead, the body is laid out, exposed, to the natural environment and it is commonly consumed by animals. The animals remove the flesh from the body and then a burial or storage of the bones occurs, if any bones remain. These interment practices commonly occur where the ground is largely rock or hard to penetrate.

The Zoroastrian religion, that can be found in India, Iran and areas of Tibet, practice an exposure burial style commonly called ‘sky burial’ (Colman, 1997; Matthews, 2010; Raudon, 2018). In 2007, about 120,000 Zoroastrians in New Delhi, India, were continuing to perform

traditional sky burials (Colman, 1997). Upon death, the body is washed, and during daylight hours the body is taken to the ‘Tower of Silence’ (Colman, 1997). The towers are about six meters high and are designed to ensure that the body does not contaminate the soil, fire, air, or water, as these elements are sacred to the Zoroastrianism culture (Colman, 1997). The body is laid bare at the top of the tower for vultures to consume its flesh (Colman, 1997). Once the remaining bones are clean and dry, they are placed, and remain, in the central pit of the tower (Colman, 1997). Zoroastrians, who live in places that either prohibit exposing dead bodies or do not have a Tower of Silence, practice cremation (Colman, 1997).

A similar practice to the ‘sky burial’ took place within native American tribes that historically occupied the American plains. These tribes placed the body in a tree or on a high platform, this sped up decomposition and expedited the soul’s journey into the spirit world (Colman, 1997). For the Naskapi tribes of North America, though burial was preferred, they too occasionally practised exposure burial on a platform facing an appropriate landscape (Matthews, 2010).

While the above exposure burials occur in the air, other exposure practices can occur on the ground. In Lhasa, the capital of the Tibet Autonomous Region, dogs or wolves are used to consume deceased bodies (Colman, 1997). These dogs are regarded as holy; and a man acquires merit by allowing his body to be consumed by them (Colman, 1997). Some nomadic people of central Asia cut the body into small pieces and leave them for wild animals to consume (Colman, 1997).

### 3.2 Cremation

Cremation is an important practice internationally, and trends indicate that it is becoming the dominate interment style (Raudon, 2018; Thomas, 2018; Thomson, 2018). For some cultures, cremation remains a prohibited practice, but for others, it is an important part of their traditions and beliefs. In modern times some religious groups have become more accepting of cremation. Most notably the Catholics, for whom cremation was banned until 1963 when Pope Paul VI ruled that while burial remained the preferred practice, cremation was not evil and the faithful were free to choose (Kremer, 2017). Limited land space and rising burial costs have also contributed to the movement away from burial towards cremation. This section identifies international historic and current practices of cremation.

Cremation has prehistoric origins, and by the early Stone Age, it was commonly used in Northern Europe and the Near East (Colman, 1997). Cremation then spread through the British Isles, Spain, Portugal, Hungary, Northern Italy, and Greece. The adoption of cremation by early Romans, around 600 B.C.E, spread cremation further as the Roman Empire expanded (Colman, 1997). Cremation went in and out of favour in Europe and was eliminated in 400 C.E before being revitalised again in the 1800s (Colman, 1997). In North America, cremation practices historically were not widespread amongst tribes (Matthews, 2010). In other countries such as Japan and India, the practice of cremation remained undisrupted, as cremation is a required practice for Hindu and Buddhist religions (Colman, 1997).

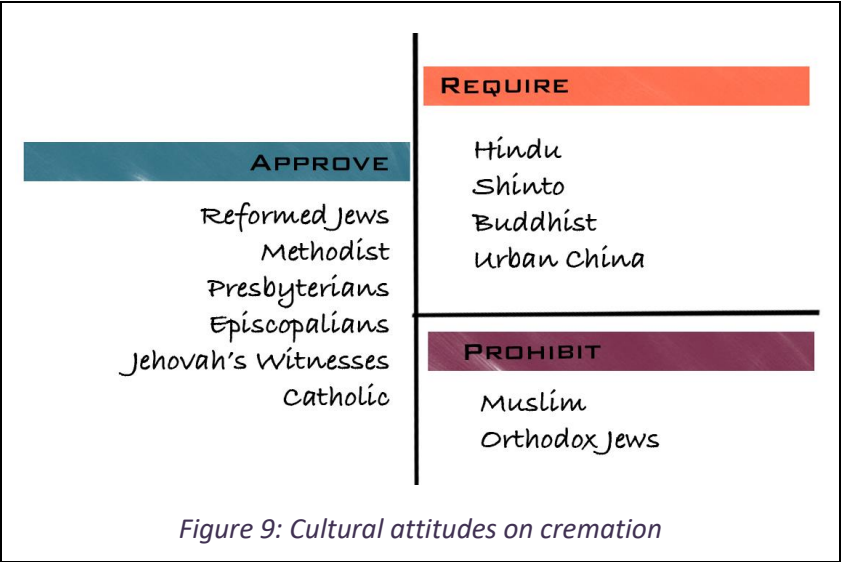
Typically the body was placed on a pyre, or pile of combustible materials which was set on fire (Colman, 1997). Prehistorically, the

body was commonly covered with a red ochre<sup>3</sup> before burning occurred. However, variations of cremation rituals developed through diverse cultures. The Ancient Babylonians wrapped the body in combustible materials and then placed in a clay coffin, while the Ancient Romans had various traditions, one of which included putting the un-coffined body on pine logs that had sweet-smelling gums stuffed between the logs (Colman, 1997). The Ma’anyan culture, in Indonesia, has a week-long festival to burn bodies that they have accumulated for several years, burning about a dozen at a time (Colman, 1997). Some traditional cremation practices, such as for the Hindu and Viking cultures, required that when the male died, the wife or a female would be expected to sacrifice herself or be sacrificed in the fire (Colman, 1997).

Just as cremation practices vary between cultures and time, so do the reasons behind the practice. A strong theme that has occurred through many cultures is that the cremation of a body is essential to enable the person to depart this world and join their ancestors or the spirit world. This belief is particularly important for Tlingit Indians in North America, the Shinto religion of Japanese origins, and the Ancient Romans and Greeks (Colman, 1997; Matthews, 2010). For some cultures, bodies are cremated to ensure that the spirits of the dead could not haunt the living (Colman, 1997).

In some highly populated countries and cities, where land has become more scarce, the government has intervened (Kong, 2011). Commonly in Asian cities, the government is encouraging cremation, as cremation takes up less space than burial (Kong, 2011). State agencies in Hong Kong, Singapore, Taiwan, South Korea, and China, have stepped in to encourage cremation (Kong, 2011). Since the

1960s, cremation became the main form of interment in Japan and Singapore (Kong, 2011). Since 1985, the Chinese government requires those living in the main cities to be cremated (Colman, 1997). This requirement has cultural resistance, as traditionally the Chinese believe that the dead have to be buried (Kong, 2011). Kong (2011) notes that within Asia cremation trends commonly increase during periods of economic growth. Though cremation has become a more accepted practice internationally, there are some cultural groups that retain a strong position on cremation. As noted in the example of China above, cremation is sometimes required by law. Figure 9 summarises attitudes on cremation that were identified through this research.



Along with the reducing consumed space, cremation is often seen as an environmentally friendly interment option. However, the amount of fuel that is required to cremate a body is equal to that of an eight hundred kilometre road trip (Doughty, 2016). An alternative method that is currently occurring in the United States is the method

<sup>3</sup> “any of various natural earths containing ferric oxide, silica, and alumina: used as yellow or red pigments” (Collins English Dictionary, n.d).



of hydro cremation. Hydro cremation does not use open fire, instead, it uses an alkaline solution combined with heat to deteriorate the flesh from the body (Kremer, 2017; Thomson, 2018). The remaining bones are then crushed as in cremation.

3.2.1 *Interment of Cremated Remains*

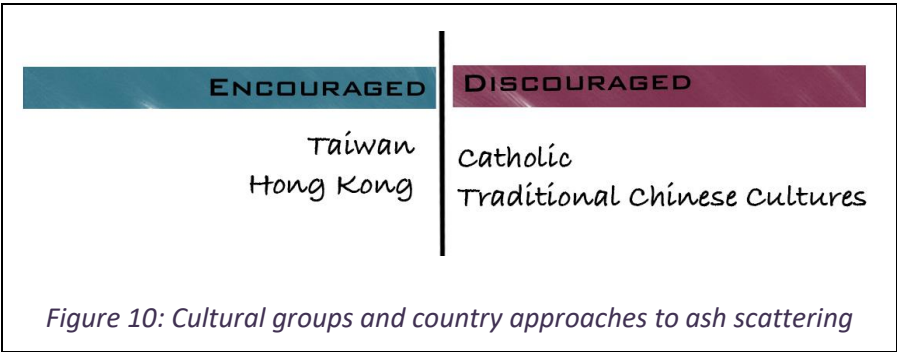
After cremation, today families are commonly left with a wide choice of what to do with the final remains, commonly called ashes. Historically, after cremation has occurred, bone fragments were collected, and in some cultures washed with milk, and placed in an urn (Colman, 1997). The collected bone fragments were stored in large raised wooden containers in the graveyard. Today most cremated remains are processed into smaller pieces, or a fine dust (Colman, 1997; Thomson, 2018).

An urn is a container which holds cremated remains. Historically, urns have been made from a myriad of materials, stone, metals, and ceramic, they also came in an array of shapes and sizes (Colman, 1997). Today urns continue to be made of different material and are of assorted sizes. Small urns accommodate for families who wish to divide the remains to different locations or family members (Colman, 1997). It is not uncommon for families to keep urns at home, particularly within the Buddhist culture (Colman, 1997). Ashes have also been placed within a variety of objects, including various sporting goods and created into ornaments or jewellery (Colman, 1997; Rega, 2015). Cremated remains are now even launched into space (Colman, 1997; Ohlheiser, 2014; Wenz, 2015).

Cremated remains can be buried within a plot or placed within a columbarium. Columbaria are structures that can be traced back to the Ancient Romans, where they placed urns in underground structures with rows of niches (Colman, 1997). The urns were

cemented to the bottom of the niche before it was sealed up, with only a small opening to allow mourners to pour in offerings of milk and wine (Colman, 1997). Today columbaria are used worldwide and are commonly vertical walls above ground (Colman, 1997; Kong, 2011). Some countries with limited landscape space still struggle to provide enough columbaria for their citizens. Along with landscape constraints, they also must navigate people’s reluctance to have columbaria within their neighbourhood. In Hong Kong estimations have predicated they need to build twenty thousand per year to meet demands (Kong, 2011).

Scattering of ashes in gardens, bodies of water, and the wilderness is common modern practice in the United States (Colman, 1997). Cremated remains need to be proportionally mixed with soil to ensure the surrounding vegetation can survive, as a build-up of cremated remains can be detrimental to vegetation (Doughty, 2016). However, in Hong Kong ash scattering is a newer concept and is still working through cultural resistance. In a proposal sought to reduce the space deceased consume, in 2007 Hong Kong put an end to its twenty-two year-old ban on scattering ashes into the ocean (Kong, 2011). However, this has conflicted with traditional perceptions that ashes must be kept intact and scattering them is seen as an act of disrespect (Kong, 2011). Figure 10 shows attitudes towards scattering of cremated remains, that were revealed through this research.



### 3.3 Exhumation

The practice of exhumation, or disinterment, of a body, is a practice that may not seem relevant to interment. However, it is a practice used in some countries to enable the continual use of cemeteries, by reusing plots.

Historically, disinterring and snatching bodies was profitable; along with the resale of lead coffins and nails (Deed, 2015). Human bodies were in high demand for many reasons throughout history. In Ancient Rome babies' body parts were stolen and used for witchcraft and sorcery (Colman, 1997). Medical schools in Europe and the United States had to illegally acquire bodies for anatomical studies, as there were few, if any, legal ways that they could obtain them (Colman, 1997). Commonly bodies of the wealthy were also kidnapped for ransom. The practice of body snatching is no longer common, though occasionally it does still occur (Colman, 1997).

Over time cemeteries are often forgotten; they deteriorate, are vandalised, or become full. Exhumation has been used legally to combat some of these issues. In the 1800s, churchyards were unable to cope with the rising populations and high mortality rates, resulting in the regular disinterment of partially decomposed bodies; which were dumped into pits (Deed, 2015). Today, land for burial continues to become scarcer and, in many places, reusing burial plots has become necessary. In European cemeteries, it is becoming more common for bodies to be exhumed, in a process that is being referred to as 'plot renting' (Ferraz, 2018). In Greece, burial plots are rented out for a little as a three year period, with yearly extensions that increase in price (Ferraz, 2018). The Netherlands has plot leases ranging between ten to twenty years, and in Italy and Germany plots can be rented for thirty years (Ferraz, 2018). Taiwan also has a lease limit of seven-years (Kong, 2011). Upon exhumation of the body from the

rentable plot, it is then placed in a catacomb or columbarium (Ferraz, 2018; Kong, 2011). The United Kingdom is reusing graves in the London Cemetery that have not been touched for seventy-five years (Ferraz, 2018).

### 3.4 Preservation Practices

The current focus of the United States funeral industry is the protection, sanitation and beautification of the body in aims to avoid the "doom of decay and death" (Doughty, 2016). This industry has developed from historic practices. This section analyses three practices of preservation: the historic practices of mummification, the evolving and ever-present embalming, and the newest, cryonics.

Some environmental conditions can naturally mummify bodies. Bodies left in hot deserts dehydrate, or dry out, instead of decomposing (Colman, 1997). In arctic and mountainous regions bodies are preserved in the extreme cold and never decompose (Colman, 1997). Known as the 'Bog People', bodies were found in bogs, in Northern European countries, where they had been naturally mummified by the humic and tannic acids in the bog's soil (Colman, 1997). Ancient human cultures developed techniques to mimic and aid nature's preserving abilities. Ancient Egyptians believed that the soul left the body at the time of death, but would re-join it in the next world, therefore it was seen as important to preserve the body so the soul could recognise it (Colman, 1997; Matthews, 2010). Their techniques of mummification developed over many years and three distinct procedures have been identified; for the wealthy, the middle class and the poor (Colman, 1997). It was a more complex process for the wealthy, everything inside the body except for the heart was removed, as they would need the heart in the next world (Colman, 1997). The body was washed with palm wine and spices and then



covered in natron<sup>4</sup> and, salt, for seventy days (Colman, 1997). Afterwards, the body was rubbed with a mix of cedar oil, wax, natron, and gum; stuffed with linen, sand or sawdust; and then finally wrapped in layers of linen bandages (Colman, 1997). The process was more streamlined for the middle class and the poor, the intestines were flushed and then soaked in natron for seventy days; the preserved body was then quickly given away to those who came to collect it (Colman, 1997).

Other preservatives include vinegar, honey and alcohol. When Alexander the Great, king of Macedonia and conqueror of the Persian Empire, died during a military expedition, his body was supposedly immersed in honey to preserve it for the trip back to Greece (Colman, 1997). After Lord Nelson, a famous British admiral was killed, his body was said to have been shipped back to England in a drum of brandy, which the crew continued to drink from (Colman, 1997).

Embalming has built upon ancient and natural preservation practices and variations are commonly used today in the modern world. Historically, the Ancient Babylonians, Sumerians, and Greeks coated bodies with oils, spices, and perfumed with unguents or salves (Colman, 1997). Archaeologists have found evidence of embalming used in other prehistoric cultures; Paraca Indians, in Peru, used sophisticated embalming techniques and in Japan, candles were used to smoke dry the bodies of certain Buddhist priests in order to venerate them (Colman, 1997). Ice was typically used to retard decomposition before embalming became popular in the United States (Colman, 1997). During the Civil War, embalming enabled soldiers bodies to be returned home (Colman, 1997).

In other cultures, embalming was seldom used. Ancient Jews and early Christians viewed embalming as a Pagan practice, although some notable Jews and Christians were embalmed (Colman, 1997). The founder of the Holy Roman Empire, upon his death in 814, was embalmed and placed in a sitting position in his tomb at Aachen (Colman, 1997). Archbishop Athanasius Y. Samuel, the highest-ranking leader of the Church in the United States and Canada, was also embalmed and lies in St. Mark's Syrian Orthodox Cathedral in Teaneck, New Jersey (Colman, 1997). Religious groups, including Sikhs, Muslims, Jews, Buddhists, and Hindus, typically either discourage or outright prohibit embalming (Colman, 1997).

Today as the length between death and burial is typically around four days, embalming is commonly the default preservation technique (Raudon, 2018). The most practised method is arterial embalming where the veins are flushed and replaced with a chemical solution (Colman, 1997). The perception of death causing a public health issue is still prevalent amongst modern day society, and embalming is seen as a protection method. However, human decomposition has been proven to be a safe process (Doughty, 2016). Embalming solutions used to contain significant amounts of the toxic chemical formaldehyde, however, today embalming solutions contain less formaldehyde, and more natural embalming solutions are available (Capill pers comm, 2018). In natural and eco-burials, embalming is generally discouraged or prohibited.

Developments in technology and science have allowed a new preservation technique to emerge, called cryonics. Cryonics is the practice of preserving humans and animals at very low temperatures

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<sup>4</sup> "a whitish or yellow mineral that consists of hydrated sodium carbonate and occurs in saline deposits and salt lakes. Formula: Na<sub>2</sub>CO<sub>3</sub>·10H<sub>2</sub>O" (Collins English Dictionary, n.d).

in the hope that future science can rejuvenate them to a healthy living condition (Best, 2008; Monette, 2012). As recently as the 1950s, it was believed that death is irreversible when the heart stops, but with today's technology, including Automated External Defibrillators (AED), people can be brought back to life after cardiac arrest (Best, 2008). Cryonicists do not believe that cryopreserved humans or animals are dead; they believe that in the future medicine will have the capability to repair tissue, cure diseases and the subject will be rejuvenated (Best, 2008; Cohen, 2012; Colman, 1997). Advocates say they have nothing to lose by trying (Colman, 1997). In 1994, Alcor Life Extension Foundations, the world's leading cryonics company, had twenty-seven frozen 'patients' and some pets (Colman, 1997). In 2012, jointly with a secondary company, Cryonics Institute, there was a combined total of nearly two thousand 'patients' (Monette, 2012).

### 3.5 Memorialisation

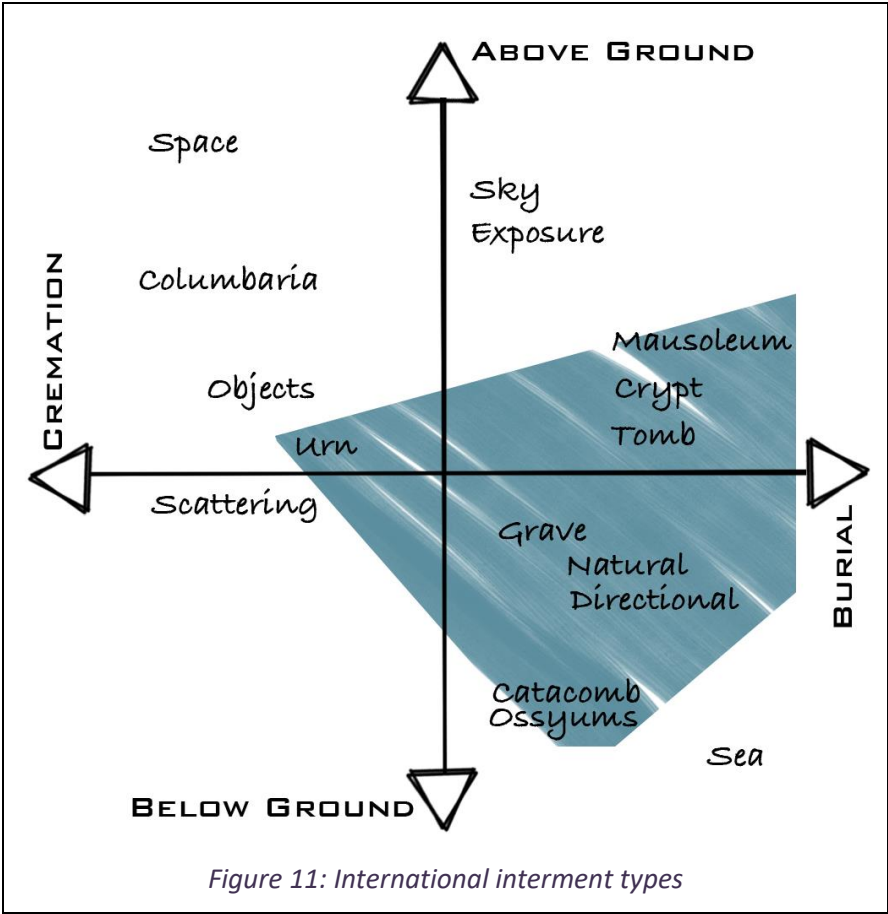
Personal monuments were uncommon until the eighteenth century, as historically concern was often with the mortality of the soul rather than the remains (Deed, 2015). Cemeteries and churchyards often contain more bodies than grave markers indicate, as wealth limited the ability to provide one and time has eroded the marker away (Hockey et al., 2012). From the eighteenth century, monuments were a way to display the wealth and importance of the deceased.

More recently, a new memorialisation movement is occurring, online (Kong, 2011). In the late 1990s, China was the first to start an online memorial webpage and in 2007, there were more than thirty memorial websites in China (Kong, 2011). These websites allow for online mourning and contributions, where users can even drag fresh flowers, matches, candles and other items to simulate real-life offerings (Kong, 2011). Variations of this online practice include the

sending of text messages to the memorial websites, simulating the speaking of prayers to the deceased (Kong, 2011). The government is also encouraging their citizens to go online as it would reduce holiday traffic and reduce waste at gravesides (Kong, 2011).

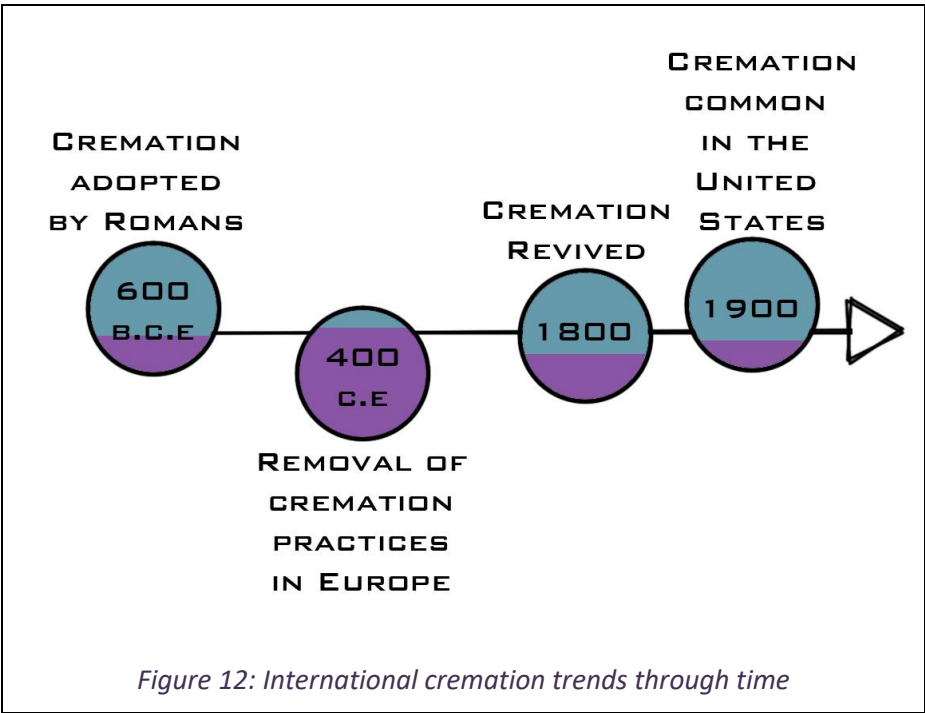
### 3.6 International Interment Summary

International interment practices, historic and current, are varied - far beyond the terms 'cremation' and 'burial'. Figure 11 shows the international interment practices highlighted throughout this chapter. It also shows the versatility of urns, which are able to be placed within burial sites.



Internationally there is a wide variety of burial practices, which occur above and below the ground. Interment practices are often dictated by the landscape. In areas where the ground is difficult to penetrate, interment practices commonly occur above the ground. Some countries and cultures even utilise carnivorous species to dispose of the body. Interment landscapes that display unique interment practices enrich the culture and its landscape with a powerful sense of place. These landscapes even generate tourism.

Cremation is an interment practice that has strong historical roots for many cultures. However, generally, the practice has gone in and out of favour throughout history. Figure 12 shows key changes in interment preferences found through this research. Current trends show that preference for cremation is increasing. Modern day life and urban development are reducing the land availability and techniques to reduce the land space required for the dead are being developed. Some countries are encouraging their citizens to adopt cremation practices; but for some cultures, burial is a historic practice that they are unlikely to compromise on.



## 4. Aotearoa New Zealand Interment Practices

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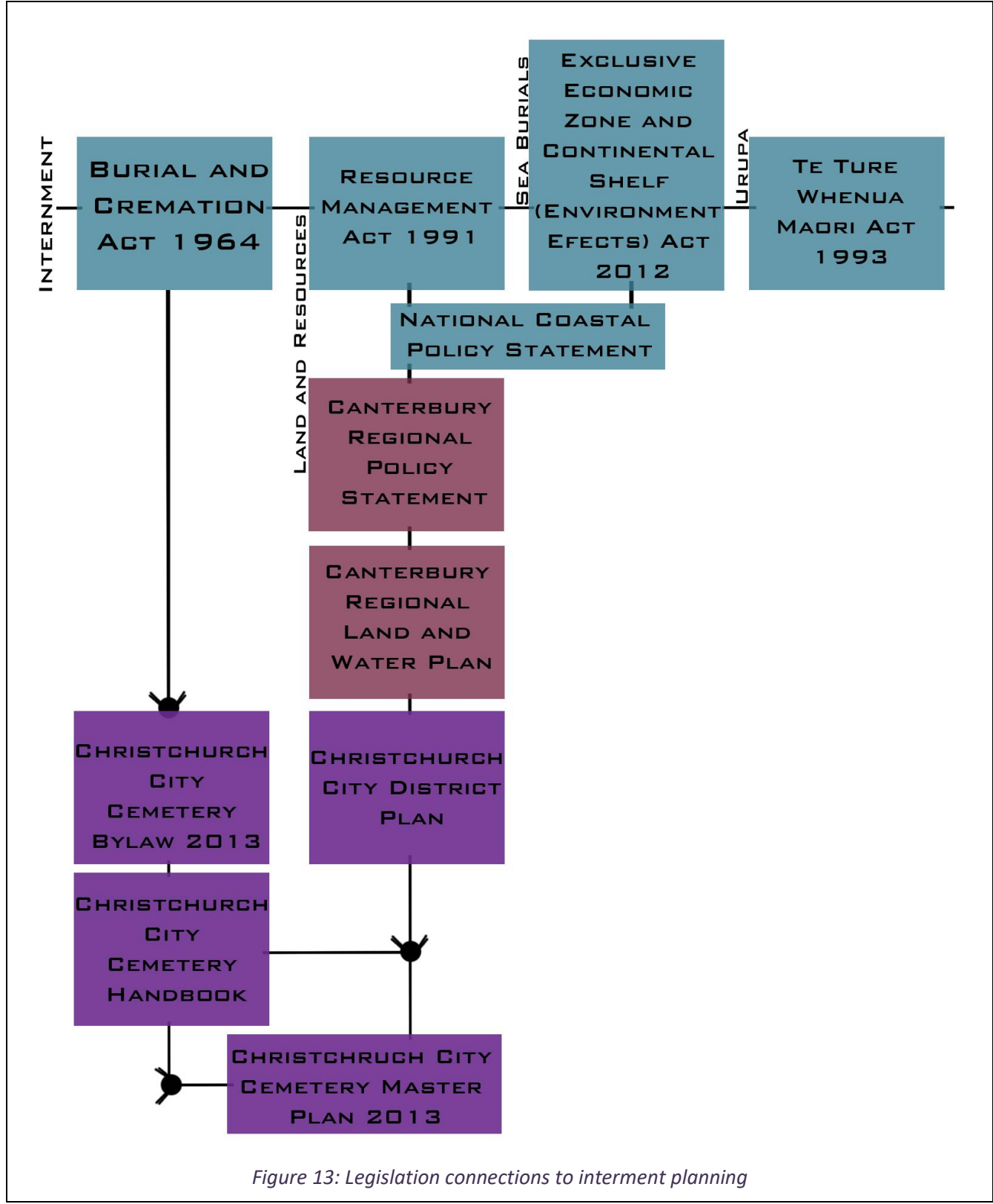
An opening statement at the 2018 New Zealand Cemeteries and Cremation Conference was a cause for discussion:

**“In the 34 years that I have been in the industry one thing that has stayed the same is that we’re still burying, we’re still cremating, we’re still memorialising, .... we have just found better ways of doing them” (Thomas, 2018)**

While the essence of interment practices, burial and cremation, may not have changed in Aotearoa New Zealand, small developments of these processes and procedures have occurred and “there has also been a significant change in the types of consumers” (McLean, 2018). The Funeral Directors Association of New Zealand (FDANZ) website identifies five interment practices available in Aotearoa New Zealand: burial, cremation, sea burial, medical science and organ donations (Funeral Directors Association of New Zealand, n.d). While these methods occur internationally, the Aotearoa New Zealand context of these interment practices is investigated below. This section includes comments and insights from interviews conducted with burial and cremation industry professionals and religious authorities practising in Christchurch. It also considers the place of Māori culture, which is unique to Aotearoa New Zealand and has some specific approaches to burial practices.

Aotearoa New Zealand’s interment practices are managed through the Burial and Cremations Act 1964. This Act was last reviewed in 2015, however, few amendments have actually been made (Law Commission, 2015, n.d). The Resource Management Act 1991 manages natural resources; this includes environmental effects on public and private land, and effects to the environment, including air. The Christchurch City Council further manages activities on publicly managed interment sites through their Bylaw. The Council overlays

interment practices and land management with their Cemetery Handbook and their Cemetery Master Plan. The Cemetery Handbook is currently under review and the draft handbook was recently released to the public for submissions (Christchurch City Council, 2018). Figure 13 visualises these documents’ connections, and they have been referred to where relevant throughout the following chapters



#### 4.1 Māori Interment Practices

Cultural practices of interment vary between each iwi, hapu, and marae; just as they do on an international scale. This section provides an overarching insight into Māori interment practices; however, variations of these practices occur. This section includes material from an interview with a local iwi member who wishes to remain anonymous.

Traditionally tūpāpaku (deceased) are returned home to their ancestors to be mourned and honoured, as to be buried elsewhere was considered neglectful (Waimarie Nikora et al., 2012). This still underpins Māori values today and occurs now on an international scale. However, with the spread of modern-day Māori throughout Aotearoa New Zealand, and internationally, some are opting to be interred in their new homes. Photographs, instead, are often sent to their home marae, where they are displayed on the walls (Anonymous pers comm, 2018).

The kawa (customs) of the iwi and the status of the deceased often determined the interment process of the tūpāpaku. Tūpāpaku of ariki (chief) and rangatira (noble) were placed on the atamira (platform) in an urupā or a tree (Colman, 1997; Matenga-Kohu & Roberts, 2006). This practice resembles exposure burials that, historically and currently, are practised internationally. The tūpāpaku would remain on the platform until all the flesh had disintegrated, only the kōiwi (bones) remained, this process took about two years (Matenga-Kohu & Roberts, 2006). It is believed that some northern tribes buried their tūpāpaku standing upright in the ground until the flesh dissolved from the kōiwi, and then the kōiwi were laid to rest

(Matenga-Kohu & Roberts, 2006). Matenga-Kohu and Roberts (2006, p. 27) state that “European law and Christian concepts now ensure tūpāpaku are buried six feet underground”. However, this is not required by Aotearoa New Zealand’s current law, but instead it has become associated with widespread practice (Christchurch City Council, 2018).

The tikanga (practice) of hura kōhatu originated from an older practice that Māori tīpuna (ancestors) referenced as hāhunga (Matenga-Kohu & Roberts, 2006). It involved the removal, cleansing and reburial of the tūpāpaku. This was done to ensure the safety of the kōiwi from desecration (Matenga-Kohu & Roberts, 2006). Family members returned a year, or more, later to gather the kōiwi of the tūpāpaku. The kōiwi were then washed, along with appropriate rituals, and prepared for the final burial (Matenga-Kohu & Roberts, 2006). Final resting places often were locations that were difficult to access such as caves, trees, crevasses, or cliff faces (Matenga-Kohu & Roberts, 2006). Cave Steam in Selwyn District has been identified as one of these sacred sites (*Caves in this area are sacred sites to Maori*, n.d). However, the colonial government prohibited various tikanga, and hāhunga was one on them (Matenga-Kohu & Roberts, 2006). This resulted in the kōiwi being gathered from all over Aotearoa New Zealand and the burial of them within a urupā (Matenga-Kohu & Roberts, 2006). Due to this imposed restriction, Māori adapted hāhunga into hura kōhatu.

Hura kōhatu<sup>5</sup> is the placement of the headstone or marker upon the burial site. It serves the same traditional tikanga as hāhunga, it sends the wairua (spirit) of the tūpāpaku on the final journey, often also marking the end of the period of mourning and releasing widows

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<sup>5</sup> Also known as hurā hanga, kōhatu, hura pōhatu, and whara kōhatu or te rā wairua (Matenga-Kohu & Roberts, 2006).

or widowers to re-marry if they choose (Matenga-Kohu & Roberts, 2006). It occurs twelve months to five years after the tangihanga (funeral) (Matenga-Kohu & Roberts, 2006; Schwass, 2005).

#### 4.1.1 Urupā

Urupā have always existed, and with exposed bodies and hāhunga now no longer tikanga, they are the primary interment location for Māori. The current forms of urupā were developed in the nineteenth century and follow more the typical European cemetery style (McManus & Du Plessis, 2018). For Māori, it is important to complete the lifecycle and burial returns tūpāpaku to Papatūānuku (Earth Mother) (Schwass, 2005). This return of the body to the earth is also reflected in cultures internationally, such as China (Kong, 2011). Urupā are located close to, and often in view of the marae. They are managed by the marae and through the Te Ture Whenua Māori Act 1993, s336 and they are specifically excluded from the Burial and Cremations Act 1964, s2(1). Graves are not dug until the day of the burial (Anonymous pers comm, 2018), and the location is often decided by the family, hapu or tribal elders (Department of Health, 1987). The deceased can be often found facing east which is commonly referenced as the direction of home or facing north, which is the direction of the afterlife [Figure 14] (Anonymous pers comm, 2018). However, the landscape often plays a key part in the orientation of the graves (Anonymous pers comm, 2018).

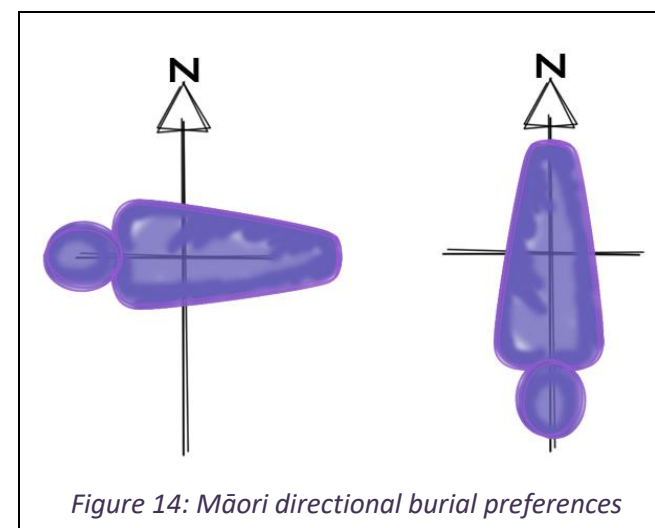


Figure 14: Māori directional burial preferences

#### 4.1.2 Cremation

Best (1914), stated that cremation was never a common custom among the Māori, however, it was used in three circumstances. These circumstances were: when travelling parties were outside their territorial boundaries, in open plains when there were no suitable locations for the bones, and to reduce the spread of a disease. Even in 2005 cremation was considered infrequent amongst Māori (Schwass, 2005). Capill (2018), stated that through his experience, Māori are almost always buried. As a manager of a non-denominational funeral home, this suggests that this occurs even if Māori are not being buried in an urupā. However, as noted by Taipari (2010) and confirmed by the anonymous interviewee, cremation is becoming more common amongst Māori. Taipari (2010) goes even further, adding that donations to science are also becoming more popular and common.

### 4.2 Inhumation and Burial

The culture and inhumation practices that the colonials brought with them to Aotearoa New Zealand were influential. Burial of their dead was preferred, this predominantly included inhumation, but some



family vaults can be found within cemeteries. It was not unusual for cemetery spaces to be grazed by cows or horses, so iron fences were commonly used to protect the graves (Trapeznik & Gee, 2016). The practices that Colonists brought with them to Aotearoa New Zealand, though fading in some areas, remain dominantly visible within today's interment landscape. Inhumation had been the prominent interment practice until the introduction of cremation, which has now become the predominant practice.

#### *4.2.1 Cemetery Burials*

Auckland, Wellington, and Christchurch established cemeteries on public land within ten years of these settlements being founded (McManus & Du Plessis, 2018). Initially, people of all religions were buried together on public land, but by 1851 separated sections within cemeteries were established for Anglican, Catholics, 'dissenters' or 'non-conformists', and Jews (McManus & Du Plessis, 2018). Recently in Christchurch, there is a move away from the segregation of cultures within cemeteries (Smith, 2018b).

Bolton Street "Cemetery Hill" and a smaller Roman Catholic Cemetery in Wellington, were the first public cemeteries to be established in Aotearoa New Zealand (Deed, 2015, p. 53). They were distinct from other burial grounds, that had previously been established by Māori, missionaries, and earlier settlers (Deed, 2015). The decision to provide public cemeteries was also radical; no governments or local bodies had done this previously in Europe (Deed, 2015). Public cemeteries were set aside in Whanganui, Wellington, Nelson, Christchurch and Dunedin (Deed, 2015). Aotearoa New Zealand's first-generation cemeteries reflected the topographical ideology that laid out these towns. They were commonly established in green reserves or in the green belts that surrounded the townships.

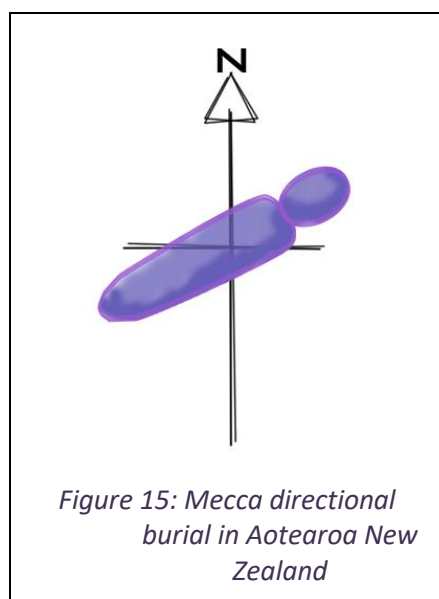
Waves of settlers still brought with them their ideals of having burial within churchyards. However, as the century progressed churchyards became less popular. The religious process became an important focus and burial was no longer necessary to attach the burial to a place of worship (Deed, 2015). Aotearoa New Zealand cemeteries reflect the tensions that sometimes existed between different denominations and ethnic groups. Large barriers once divided nearly all cemeteries into different denominational portions. What now appear to be large general cemeteries are in fact a collection of denominational burial grounds, many of which have had the walls and fences removed (Deed, 2015). Until 1855, Bolton Street cemetery remained undivided by denomination, until a complaint rendered an Anglican section to be established and the cemetery to be segregated (Deed, 2015).

The early nineteenth century saw a key change in cemetery styles (Deed, 2015). The Paris cemetery 'Père Lachaise' was an archetypal 'picturesque' cemetery, that was influential in the development of Aotearoa New Zealand's cemeteries (Deed, 2015). It set the burial style that, is most common today: "a private burial in perpetuity, in a marked grave with a permanent monument to the family or individual" (Deed, 2015, p. 21).

Burial is a vital interment practice for the Jewish and the Muslims. According to the interviewees, the requirement for Muslims to be buried is unlikely to change in the future (Dewhirst & Founda pers comm, 2018). Time is also of the essence for the Jewish (Department of Health, 1987) and Muslim communities, with the preference for the burial to take place as soon as possible (Al-Salim & Waja, 2018; Dewhirst & Founda pers comm, 2018). In the Muslim community, it is before sunrise if the death occurs through the night, while if the death occurs during the day then it is preferred that burial occurs before sunset (Dewhirst & Founda pers comm, 2018). Burials for Muslims must face Mecca, which in Aotearoa New Zealand is in a



slight north-westerly direction (Al-Salim & Waja, 2018; Department of Health, 1987; Dewhirst & Founda pers comm, 2018) [Figure 15]. The body is also laid on its side, not on its back as is typical in most other cultures. In order to provide a more streamlined burial timeline a group in the North Island, ‘Working Together Group’, has created a communal approach which satisfies both cultural practices and Aotearoa New Zealand’s legal requirements associated with burial (Al-Salim & Waja, 2018).



#### 4.2.2 Natural Burials

Natural burials in Aotearoa New Zealand have not grown in the way they have in other countries. The current uptake of natural burials does not follow the predicted trends depicted when the movement first started in Aotearoa New Zealand ten years ago (Raudon, 2018). The Burial and Cremation Act 1961 does not define ‘natural’ or ‘eco-burials’ and cemetery providers are often left struggling to inform the public, directing them that an ‘eco-burial’ does not stand for economical. Often natural burials are more expensive as they require more space (Smith, 2018b). The Christchurch City Council defines ‘natural burial’ and ‘green burials’ as burials that have:

**“a low environmental impact, including the body not being treated with chemicals or oils that prevent or slow down the decay of the body by bacteria.”**  
(Christchurch City Council, 2018, pp. 3-4).

The council then further differentiates between the two types of burials. A ‘natural burial’ area is planted to encourage ecological restoration and over time plots may be unidentifiable, while ‘green burial’ plots will continually be identifiable (Christchurch City Council, 2018).

#### 4.2.3 Sea Burials

Sea burials occur in the waters surrounding Aotearoa New Zealand, but they are not commonly requested. It is more often an option considered for those who have had a strong connection with the ocean, such as sailors and fisherman (Capill pers comm, 2018). For Māori sea burial is not a desired practice, as bodies do not go in the “food cupboard” (Anonymous pers comm, 2018; New Zealand Herald, 2016). The Environmental Protection Authority manages sea burials and no body (excluding ashes) is to be disposed of within the exclusive economic zone or continental shelf, without the Authority’s written approval (Exclusive Economic Zone and Continental Shelf (Environment Effects) Act 2012, s20J). There are five sea burial grounds off Aotearoa New Zealand’s coast; one is located fifty-five nautical miles off the coast of Christchurch [Figure 16] (Environmental Protection Authority, 2018). Sea burials tend to be a romantic idea associated with going to sea by boat, but often mourners are confronted with a rough sea journey to the burial waters (Capill pers comm, 2018). Helicopters can be used instead, but this limits the number of family members in attendance (Capill pers comm, 2018). Sea burials occur all over the world, however, the practice of them in Aotearoa New Zealand conflicts with Māori culture.

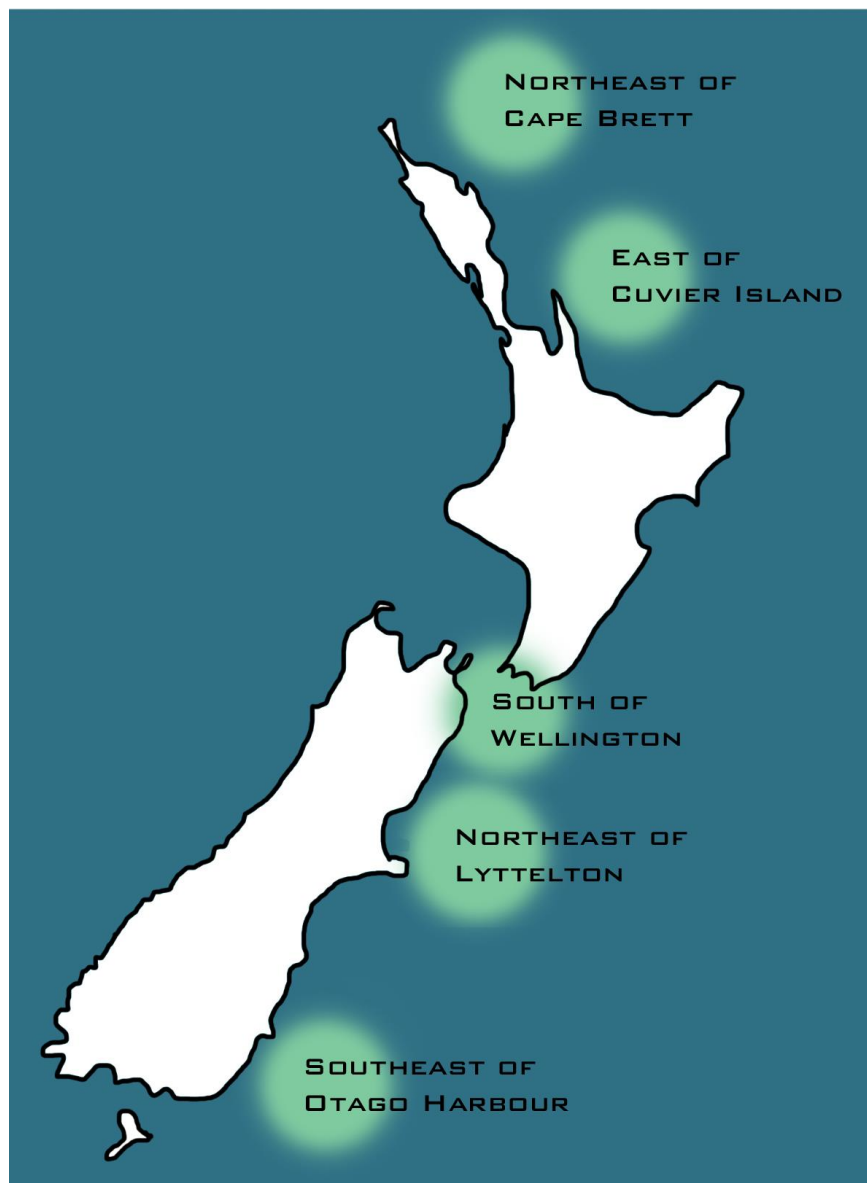


Figure 16: Aotearoa New Zealand sea burial locations (Adapted from Environmental Protection Authority, 2018, p. 5)

### 4.3 Cremation

As an alternative to burials, cremation began to gain favour, in Aotearoa New Zealand, in the years before WWI (Deed, 2015; Terry pers comm, 2018). Cremation was advertised as a hygienic way of disposal, arguing that it would remove the mass of petrified bodies that caused diseases such as measles, scarlet fever, diphtheria, and

typhoid (Deed, 2015). As the cost of burial increased, cremation has become a preferred choice by many New Zealanders (Jones, 2012; McAvine, 2014). Now more than eighty per cent of people who die in Aotearoa New Zealand are being cremated (Thomas, 2018; Thomson, 2018).

The first crematorium in the southern hemisphere was built in the Karori Cemetery in 1909 (Deed, 2015). It also has a matching columbarium at the back of the crematorium (Deed, 2015). The entrepreneur T.L. Jones established the Cremation Society of Canterbury in 1936, providing a service that had not been fulfilled by the local authority (Terry pers comm, 2018). Though the business uses the word 'society' it is not an overarching organisation, as historically limited liability companies could possess the title of society (Terry pers comm, 2018). The Cremation Society of Canterbury is the largest private provider of ash interments in Christchurch, with two gardens - one at Linwood and the other at Harewood (Terry pers comm, 2018).

Within the Aotearoa New Zealand Hindu community, cremation is the desired interment option (Das pers comm, 2018). The culture is not attached to the physical body. The body is referred to as a vessel and once the spirit has left the body it has completed its purpose (Das pers comm, 2018; Department of Health, 1987). In India cremation takes place in the open, along the 'burning ghats' especially near the sacred river (Das pers comm, 2018; Department of Health, 1987). Open air cremations in Aotearoa New Zealand are challenging to perform and difficult to gain consent for. A suitable solution to this has been to allow families to view the casket being placed into the cremator (Terry pers comm, 2018).

#### 4.3.1 *Interment of Cremated Remains*

Like international practices, cremated remains can be interred in burial plots, preserved in urns, scattered, and more recently, placed within objects or jewellery.

The percentage of cremated remains that are scattered is unknown, as records of the remains often end with them being placed in the care of the family (Terry pers comm, 2018). In Aotearoa New Zealand, Bylaws and private ownership can restrict where ash can be scattered. People often like to scatter cremated remains in locations that were important to the deceased (McLachlan, 2016; Terry pers comm, 2018). However, scattering in some locations is often deemed inappropriate, and iwi have previously expressed concern that cremated remains could be scattered in sacred areas (McLachlan, 2016). Scattering issues were raised at the 2018 music awards, where one group scattered ashes of a band member on stage while accepting their award (Guardian, 2018; New Zealand Herald, 2018; Radio New Zealand, 2018; Stuff, 2018). The move was considered culturally inappropriate and other presenters who had to come on stage afterwards felt uncomfortable about being amongst the cremated remains (Guardian, 2018).

#### 4.4 *Disinterment*

Disinterment in Aotearoa New Zealand is illegal unless permission has been granted from the Minister (Burial and Cremation Act 1964, s51(1)). Under the current legislation, it is a punishable through a fine “not exceeding two hundred pounds or imprisonment for a term not exceeding three months” (Burial and Cremation Act 1964, s55(1)). When someone is buried, there is often a perception that their body will be laid to rest forever and remain unmoved, as plots are sold in perpetuity (Christchurch City Council, 2013b). However, some

interment landscapes in Aotearoa New Zealand, over the years have been shifted or completely removed. A key driver for this has been to make room for modern development or to upgrade, revitalise, a decaying cemetery.

Wellington’s Bolton Street Cemetery was set aside in 1840, as a seven hectare general cemetery and it was operational until the 1890s (Deed, 2015; Ferguson, 2018). Urban plans in the 1960s designed a new motorway, into the city centre, right through the cemetery, which caused controversy (Ferguson, 2018). However, the motorway development prevailed, and over three thousand bodies were disinterred while the cemetery was closed between 1968 and 1971 (Ferguson, 2018). An older example of cemetery removal is found within records of Christchurch’s Linwood Cemetery. Documents relating to Linwood Cemetery refer to the removal of a nineteenth-century Jewish Cemetery on Hereford Street and the bodies were reinterred into the Linwood Cemetery (Christchurch City Libraries, n.d). Today there is no recognition along Hereford Street of where the Jewish Cemetery once existed.

The ‘Cimetière Catholiques’, more commonly known as Akaroa French Cemetery, was disinterred in an effort to clean up and ‘revitalise’ the site (Christchurch City Council, n.d-a). As the oldest cemetery within Christchurch, opening in 1842 (Christchurch City Council, 2013b, 2018), it had become neglected and significantly damaged by the 1920s. The Akaroa Borough, the council at the time, revitalised the site in 1926 (Christchurch City Council, n.d-a). The revitalisation included the removal of vegetation and the disinterment of bodies. All remnant grave material was cleared and only two inscription plates were salvaged; these two plates are now attached to the monument that is erected on the site (Christchurch City Council, n.d-a) [Figure 17].



*Figure 17: Akaroa French Cemetery 'Cimetière Catholiques'*

#### **4.5 Memorialisation**

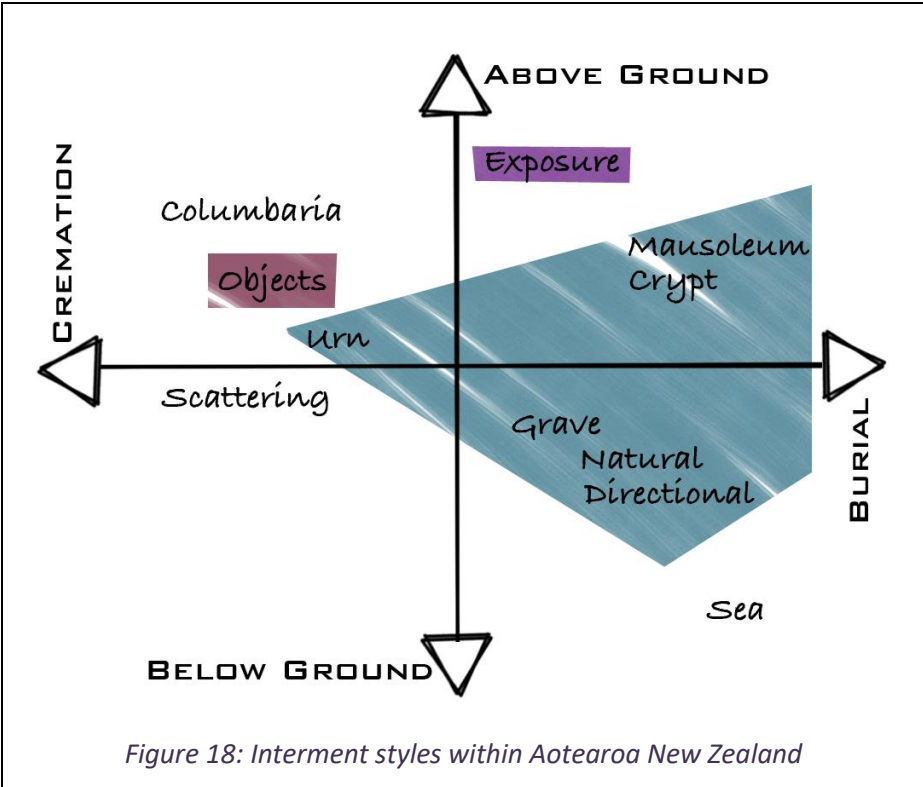
Unlike the elaborate designs that can be found internationally, monuments historically in Aotearoa New Zealand cemeteries were limited in their designs (Trapeznik & Gee, 2016). Wealth played a large part in the ability to provide headstones, which resulted in unmarked graves for those who could not afford one. The wealthy often imported headstones from overseas, and statues of angels were typically imported from Italy (Trapeznik & Gee, 2016). Memorials, monuments and grave markers are also susceptible to damage, whether this is through vandalism, neglect or natural events (Law, 2017; Northcott, 2017; O'Connell, 2017; Preston, 2018). Today public interment grounds struggle with maintaining monuments and often place restrictions on the height, material and style through their Bylaws. The placement of tokens on the grassed lawn areas beyond the monument berms, create maintenance issues for the groundskeepers (Lee, 2018).

Cemetery management strive to keep the public connected and take pride in the interment landscapes. This reduces the cemeteries risk of vandalism and neglect. Social media has been identified as a tool to help connect the managers and the public, however, it must be used correctly (Lutterman, 2018). The digitalisation of cemetery records and grave markers is desired by all cemeteries; however, cost is the largest hurdle particularly for publicly owned cemeteries.

#### **4.6 Aotearoa New Zealand Interment Practices Summary**

Interment has changed from the historic exposure burial of Māori to the recent option of placing cremated remains within objects, including ornaments and jewellery. Aotearoa New Zealand interment options are primarily 'cremation' or 'burial' [Figure 18]. This research

of interment practices within Aotearoa New Zealand revealed that some cultural groups have adapted their traditional practices and have often come to accept Aotearoa New Zealand’s interment landscapes. However, cultural groups have placed variations on the processes, whether that be during the funeral process or after. Even as a funeral director of seventeen years, Capill pers comm (2018) still finds that people come with new traditions and rituals.





## 5. Christchurch Interment Grounds

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Interment grounds within Christchurch are predominantly owned and operated by the Christchurch City Council, with only a few privately managed interment grounds. Figures 19 and 20 show the interment grounds that were identified through this research. The public cemeteries grounds were located via the Christchurch City Council's website, while private burial grounds were identified through a combination of desktop research and site visits.

This chapter analyses a selection of interment sites within Christchurch. It primarily focuses on publicly owned cemeteries, as these sites should be inclusive of Christchurch's ethnic groups. Unique styles between and within the selected cemeteries were identified

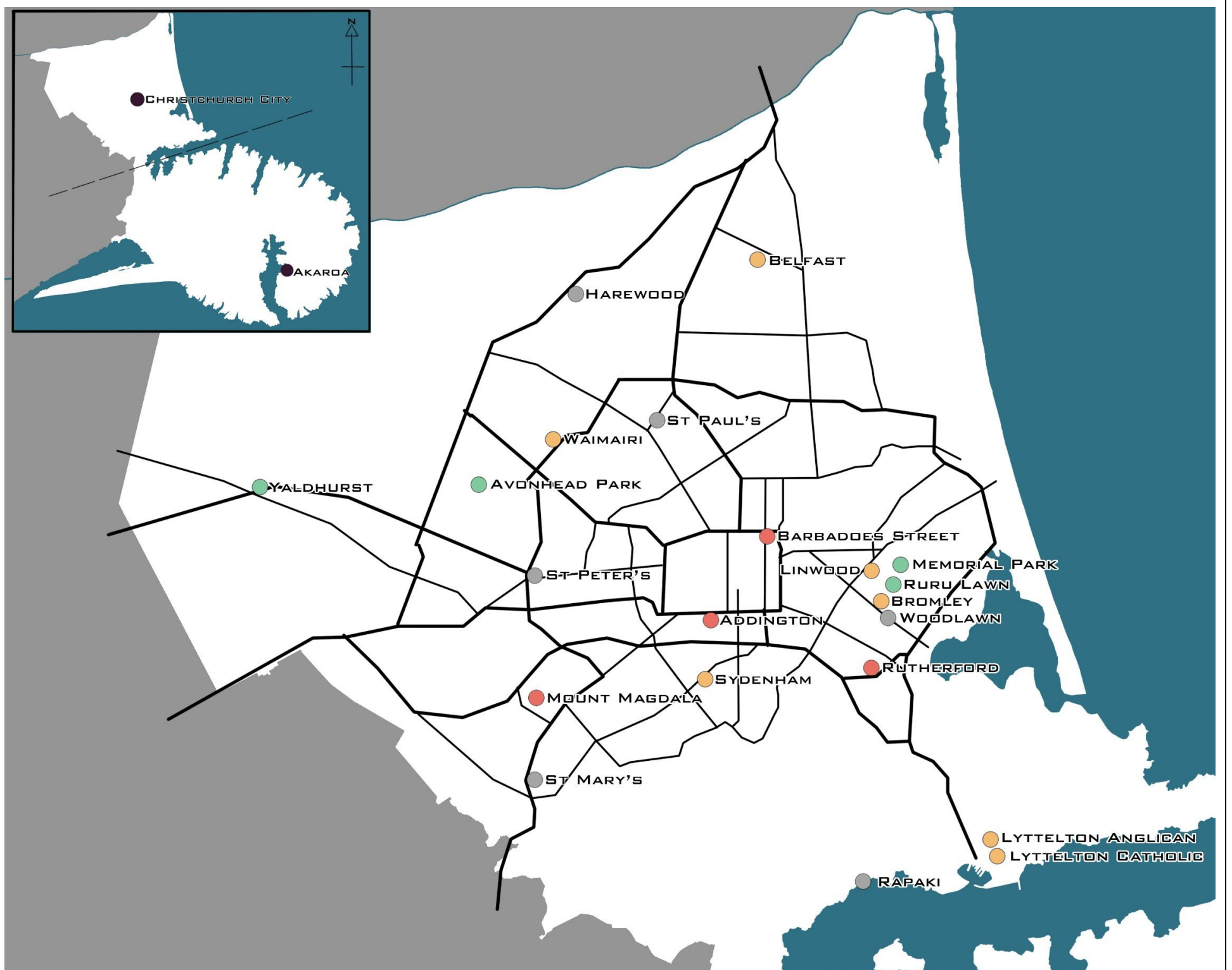


Figure 19: Interment grounds located within the central Christchurch area

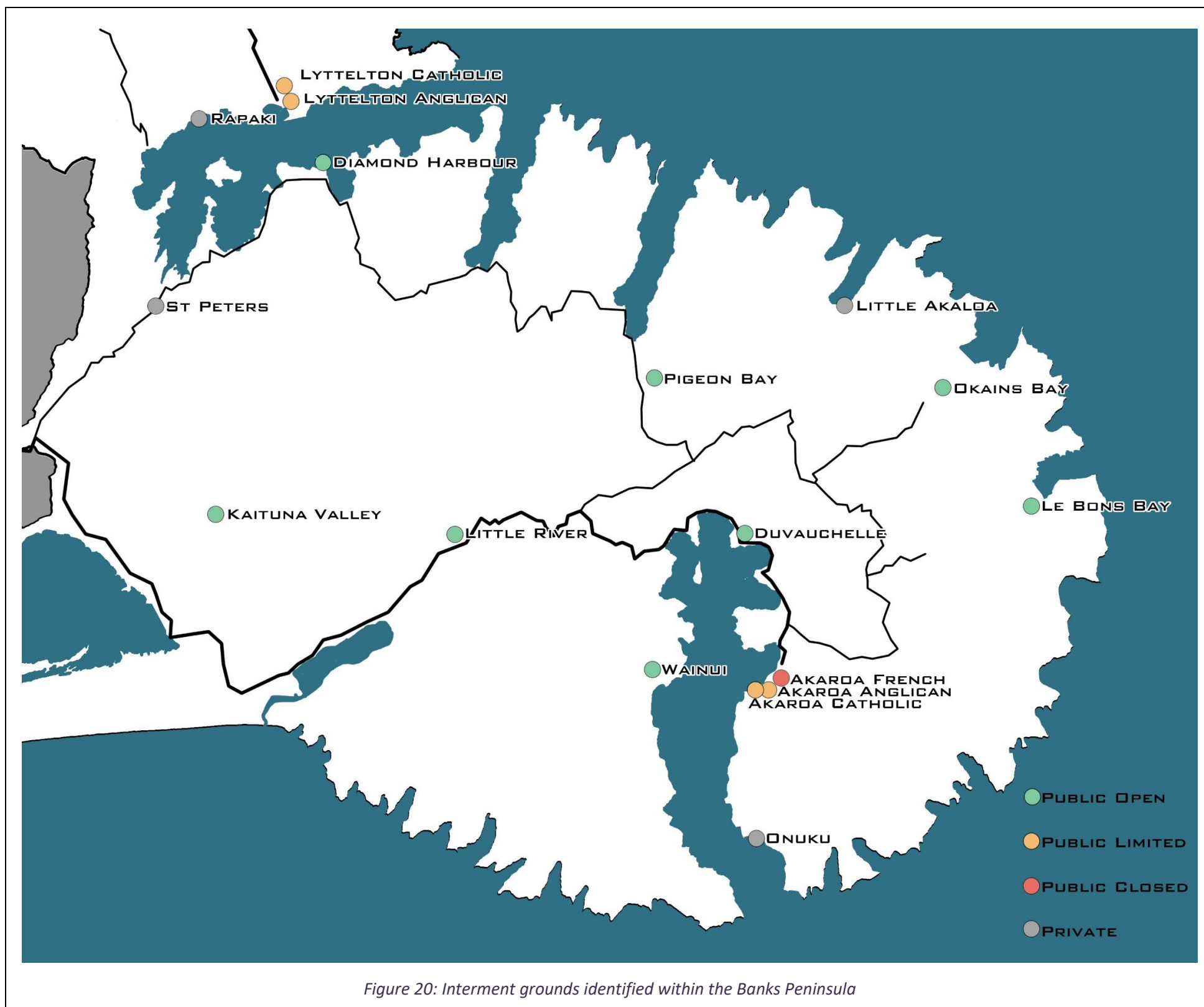


Figure 20: Interment grounds identified within the Banks Peninsula



## 5.1 Public Cemeteries

The Christchurch City Council currently maintains twenty-seven cemeteries, thirteen within the central Christchurch area and fourteen within the Banks Peninsula. The Akaroa Anglican Cemetery and the Akaroa Dissenters/Public Cemetery are on adjoining properties and their information is commonly combined under the single title Akaroa Anglican Cemetery. Some have fully closed, while many are only open for pre-purchased plot burials Figure 21 shows the timelines of the cemeteries. In the 1900s the Christchurch area had an abundant of operational cemeteries. However, now a sizeable number of cemeteries have closed or have limited capacity left.

Though twelve cemeteries remain open, most are located away from the populated central Christchurch area. Cemeteries in the Banks Peninsula have been less popular, with many of the cemeteries that opened in the late 1800s are still available for burials today. However, the more populated central Christchurch area only has four open interment grounds. This has prompted Christchurch City Council to start scoping for a new interment site (Smith, 2018a).

The oldest cemetery in Christchurch is the Akaroa French Cemetery, ‘Cimetière Catholiques’, which was established with the arrival of Colonisers in the 1840s. The newest cemetery Diamond Harbour Cemetery was established in 2002, and has just officially extended to include a green burial area (Watson, 2018). The council does not currently provide a columbarium on any of their interment sites.

Site visits to interment grounds in the Banks Peninsula and Christchurch City occurred throughout the duration of this research. However, Christchurch City cemeteries were focused on as the population density within the City represent a greater potential mix of

cultures. The following cemeteries have been analysed in detail to gain a further understanding of historic and current interment landscapes within Christchurch:

- Barbadoes Street Cemetery
- Linwood Cemetery
- Waimairi Cemetery
- Ruru Lawn Cemetery
- Avonhead Park
- Memorial Park Cemetery

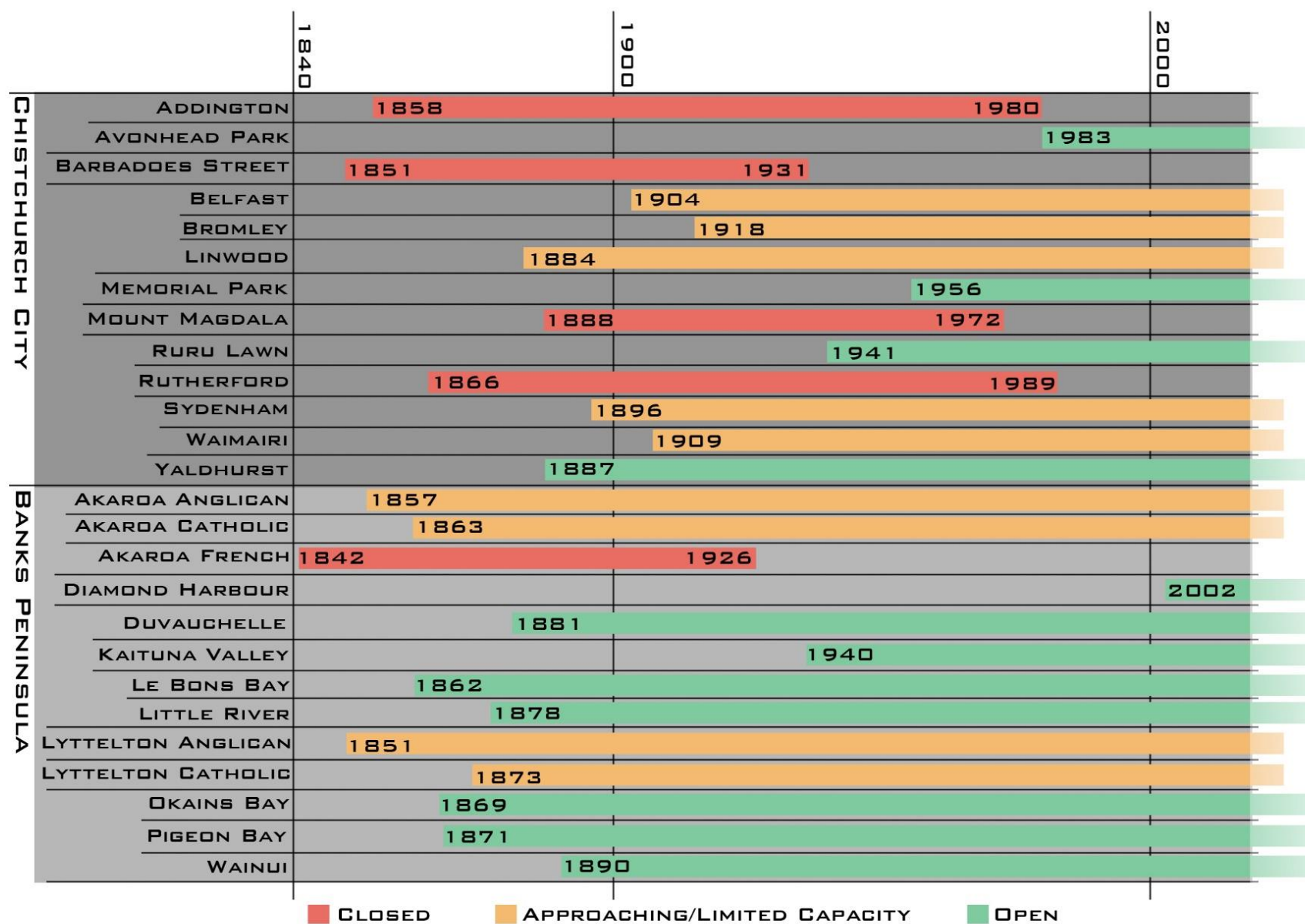


Figure 21: Status of Christchurch City Council's interment grounds (information sourced from Christchurch City Council, 2013b)

### 5.1.1 Barbadoes Street Cemetery

Opened in 1851, Barbadoes Street Cemetery is Christchurch City's oldest cemetery (Christchurch City Libraries, n.d). It was originally established as a part of a park-inspired landscape setting on the edge of town (Deed, 2015), but the cemetery has now been surrounded by urban development. It had a short life, as a public epidemic quickly filled the small cemetery and it officially closed in 1931 (Christchurch City Council, 2018). Figure 22 shows the layout of Barbadoes Street Cemetery; it overlays a historic map that shows the cemetery was segregated into four denominations (Christchurch City Libraries, n.d). The graves predominately consist of the same plot style, with a raised headstone marker set within the lawn [Figure 23]. Some graves have their footprint fully encased in concrete. Plots are in single rows with an east orientation. At the Cambridge Terrace entrance is a roofed structure known as a 'lych gate' -derived from the Old English 'lich' meaning corpse- which was erected in the 1900s [Figure 24] (Christchurch City Libraries, n.d). Many plots do not have grave markers, and the 2011 earthquake further damaged fragile headstones (Christchurch City Libraries, n.d).

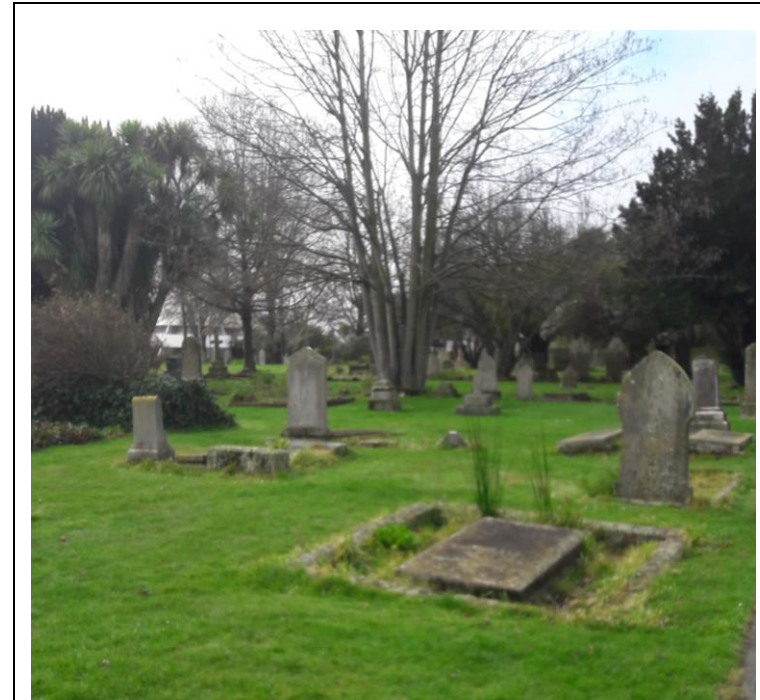
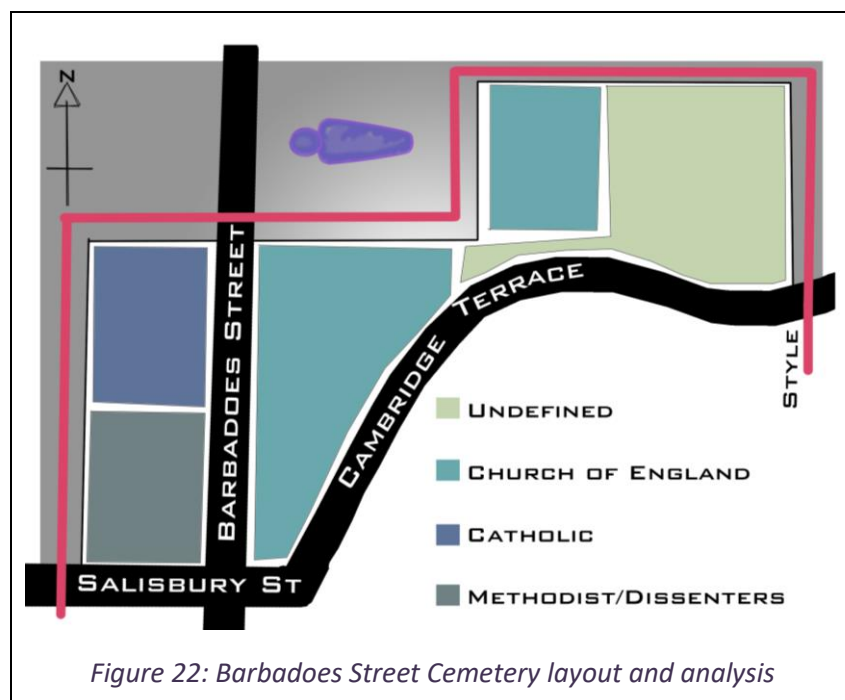


Figure 23: Barbadoes Street Cemetery grave style



Figure 24: Barbadoes Street Cemetery lych-gate

### 5.1.2 Linwood Cemetery

Linwood Cemetery opened in 1884, and as the first municipal cemetery of the Christchurch City Council, it was designed with the visiting public in mind. As it was built on the outskirts of town, the cemetery included a tramway that led from the city centre into the cemetery (Christchurch City Libraries, n.d; Deed, 2015). A special tram was designed to carry four coffins at a time. However, this service proved to be unpopular, and the tram was sold in 1901 for just three pounds (Deed, 2015).

It was expected that Linwood Cemetery would accept around three hundred graves per year, as this was the current trend in the Barbadoes Street Cemetery (Alexandra, 2015). Instead, it took five years to fill three hundred graves and it was not until 1898 when over three hundred graves were filled within a year (Alexandra, 2015). Since 1921, the number of burials at Linwood Cemetery decreased, as Bromley Cemetery, which opened in 1918, became the preferred burial ground (Alexandra, 2015). It is thought that there is a wider cross-section of society buried in Linwood Cemetery than at other Christchurch interment landscape of the nineteenth century (Christchurch City Libraries, n.d). Though unmarked on public maps, Linwood has a Jewish section. This section includes graves which were moved from the nineteenth century Jewish Cemetery that was located in Hereford Street (Christchurch City Libraries, n.d).

The cemetery's plots are predominantly defined in concrete, with grassed walkways [Figure 25]. There is one notable tomb located on the site, however, it has been boarded up due to earthquake damage. The Linwood Cemetery is near Bromley, Memorial and Ruru Lawn Cemeteries. Linwood Cemetery is now fully closed for interments.

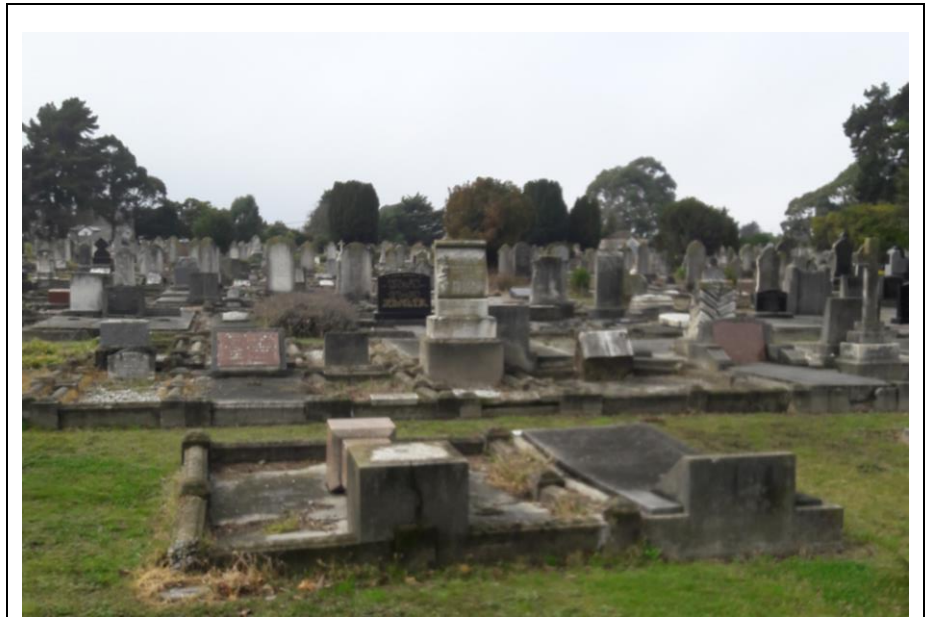


Figure 25: Linwood Cemetery



### 5.1.3 Waimairi Cemetery

This cemetery was established in 1909 by St Barnabas Anglican Church after being granted permission from the Waimairi County Council (Christchurch City Libraries, n.d). The cemetery has been through three name changes, Papanui Public Cemetery (1911), Fendalton Cemetery (1916-1917), and officially renamed in July 1917 to Waimairi Public Cemetery (Christchurch City Libraries, n.d). However, now it is commonly referred to as Waimairi Cemetery.

Waimairi Cemetery is located within a residential setting. It is defined by a tall perimeter fence and an open road frontage. The cemetery plots are all laid perpendicular to the road. However, this is not directly facing east but south-east. Waimairi Cemetery was one of the few cemeteries which contained a specific map depicting denominational areas. The map at the cemetery entrance defines the denominational areas and has been utilised to create Figure 29. The growth pattern of Waimairi Cemetery is distinct with three styles of grave markings. The oldest section, style one, has large monuments and defined burial spaces, which have been filled with concrete or stones [Figure 26]. The second style, are single rowed graves all facing in the south-east direction with upright headstones mounted on concrete beams and grassed burial spaces [Figure 27]. Plots towards this north-western end are empty but appear to be pre-purchased by a Catholic group. Style three, the most recent graves, has reclining headstones attached to concrete beams amongst an open lawn landscape [Figure 28]. This cemetery is nearing capacity.



Figure 26: Waimairi Cemetery grave style one

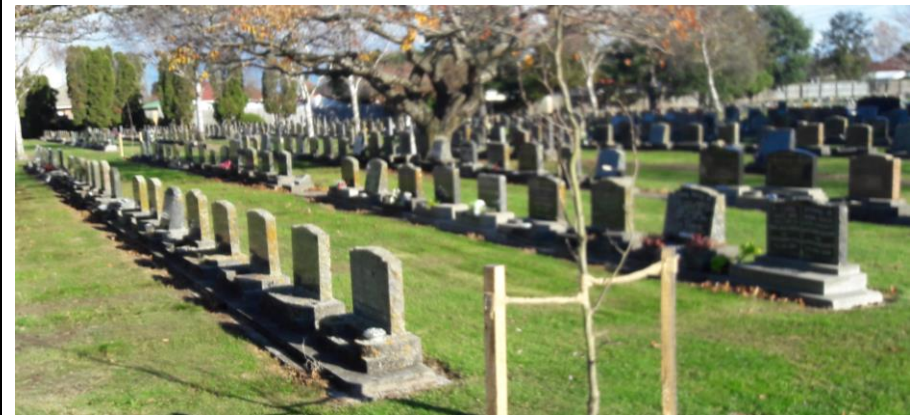


Figure 27: Waimairi Cemetery grave style two

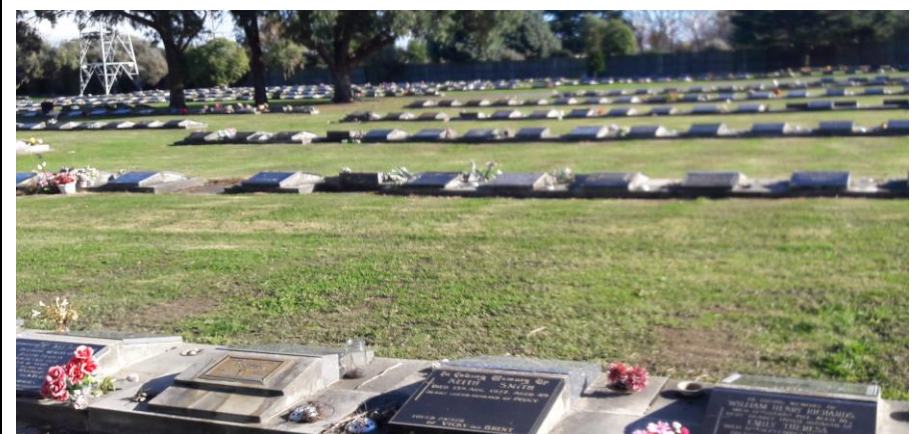


Figure 28: Waimairi Cemetery grave style three





#### 5.1.4 Ruru Lawn Cemetery

This cemetery was established in 1914 and covers just over fifteen hectares (Christchurch City Libraries, n.d). Though both the Christchurch City Council and the Christchurch City Libraries websites note that there are areas set aside for different denominations including Muslim burials, maps do not identify them. Figure 31 shows the layout of the cemetery and the areas of distinction that were identified through the site visit.

The entire cemetery is based on a lawn concept where its landscape consists of flat headstones among a large lawn setting with large deciduous trees defining the road edges [Figure 30]. Identified as style one, the older section of the cemetery has individual flat headstones placed within the lawn, while style three is the newer section which has flat headstones on long concert beams. Style two is service plots which are tilted headstones, and in this area, the bodes are laid perpendicular to Ruru Road. Many of the older headstones which were placed individually within the lawn have sunken and leaf litter and soil has accumulated on top. This has created holes amongst a normally flat landscape. Plots in style one and three face the Christian traditional east-west direction. None of the plots indicated a direction towards Mecca.



Figure 30: Ruru Lawn Cemetery predominate landscape style

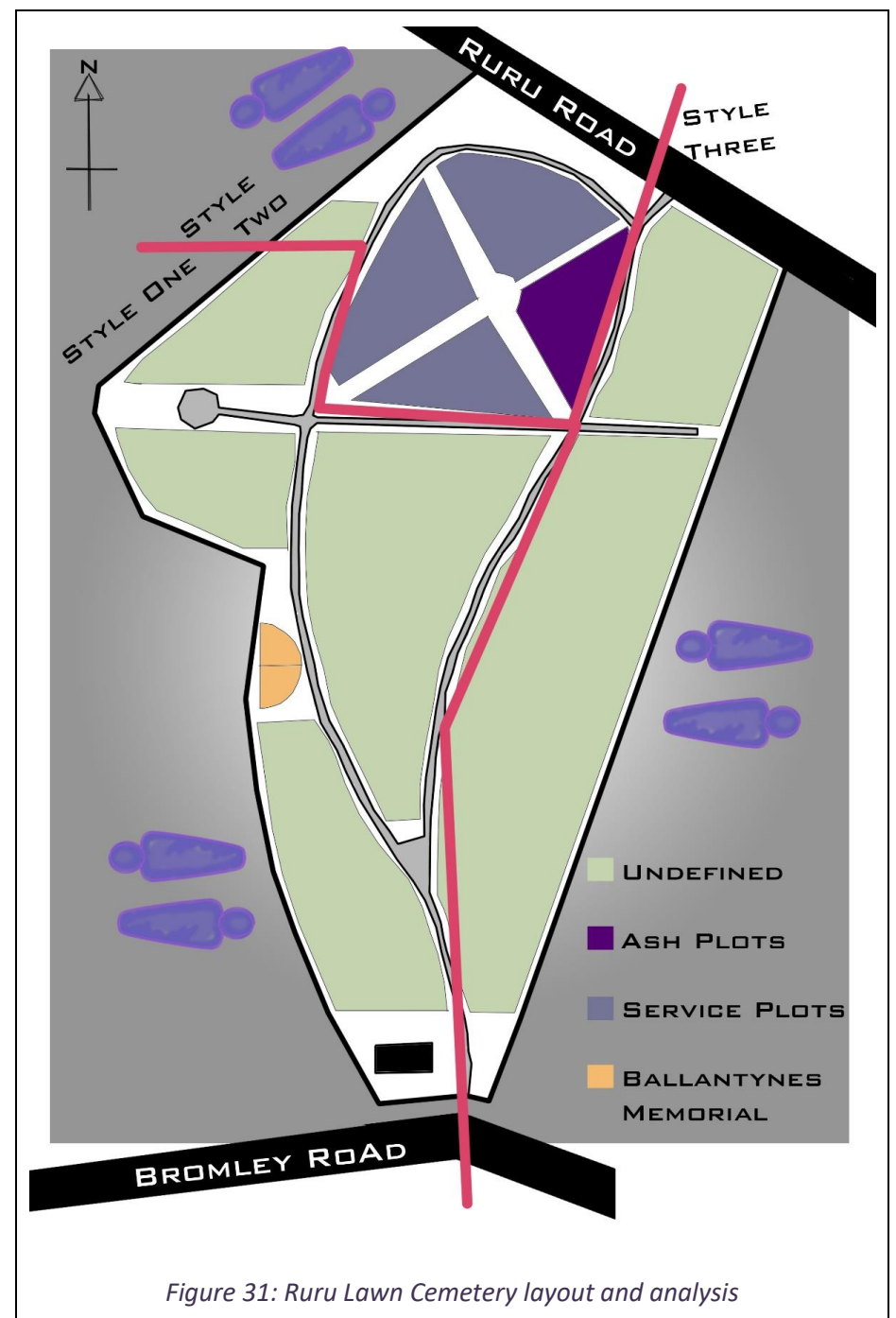


Figure 31: Ruru Lawn Cemetery layout and analysis



### 5.1.5 Avonhead Park Cemetery

Avonhead Park Cemetery has undergone some transformations since it was first developed in the late 1970s. The original concept was for it to be a pure park-like setting, free from the disruption of headstones within its landscape (Christchurch City Council, n.d-a) [Figure 32]. Graves were instead marked with a metal tag, which could be found with a metal detector, and names of the buried were placed on the memorial wall by the records room (Christchurch City Council, n.d-a) [Figure 33]. However, this concept did not prove to be popular with the community and the placement of headstones was later allowed (Christchurch City Council, n.d-a) [Figure 34]. An extension of the cemetery occurred in 1993 and again in 2009 (Christchurch City Council, n.d-a). The Christchurch City Council website indicates that the cemetery is not laid out in any denominational divisions.



*Figure 32: Avonhead Park Cemetery monument style was originally planned to be monument free, but today it contains scattering of wooden crosses*



*Figure 33: Avonhead Park cemetery records room and plaque wall*



*Figure 34: Avonhead Park Cemetery monument style that was introduced after the lawn concept proved unpopular*



### 5.1.6 Memorial Park Cemetery

Established in 1956, it is the third youngest cemetery in Christchurch City (Christchurch City Council, n.d-a). This cemetery was found to be the most active interment landscape during the site visits. Mourners were regularly coming and going from the site on a sunny weekday afternoon. The cemetery is evidently growing from its western edge along Cypress Street to the east with an area currently undeveloped and fenced off [Figure 37]. The oldest area is a formal east-west orientation of graves, but as the site has grown to the east the orientation and layout of the graves has changed to a variety of orientations. The cemetery is predominately laid out with concrete beams which dictate the location of the headstones [Figure 35].

The Christchurch City Council website note four distinct areas: Muslim, Māori, Russian Orthodox and a Pacific Island area. However, no maps depict these specified areas. The headstones within this cemetery imply a site that is becoming a more integrated mix of cultures. A large mound has been utilised as a burial space which allows for a variety of directional burials, style five. This could potentially be the urupā area and attracted a significant amount of the visitors. Style two is unique lawn area with plaques on the edge and a clear lawn setting in the centre [Figure 36]. This could potentially be the unutilised White Russian area, however, the names on the headstone do not depict a single origin. The Muslim area is currently isolated in the south-eastern area of the cemetery and it has yet to be integrated. Through the interview it was acknowledged that Muslims do not object to being buried next to non-Muslims, it is only necessary for them to face Mecca (Dewhirst & Founda pers comm, 2018).

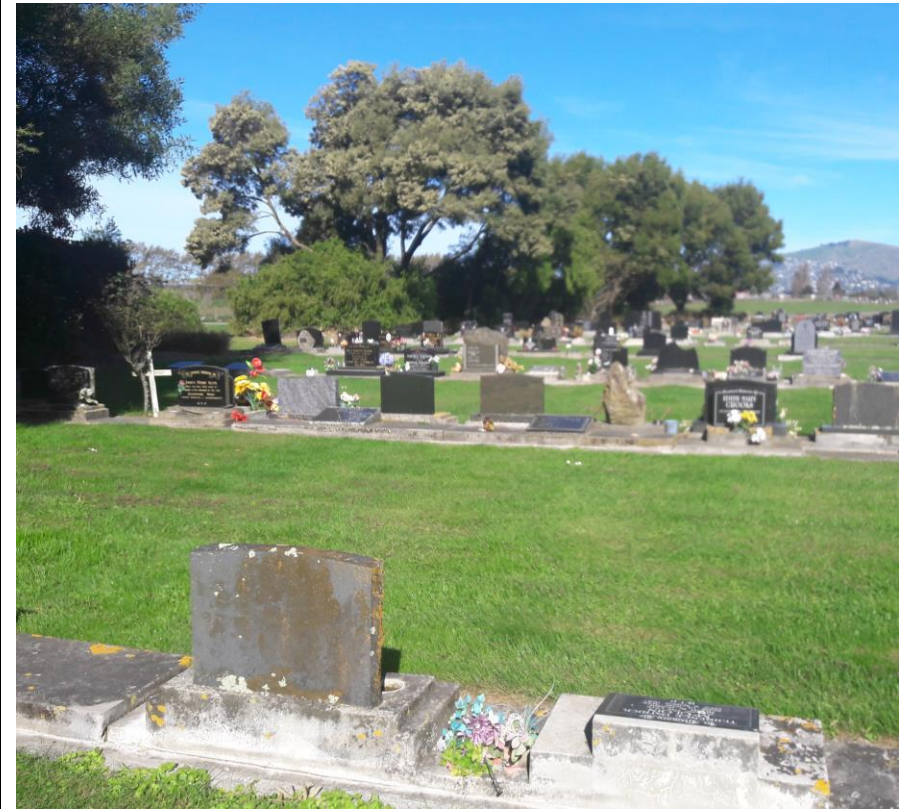


Figure 35: Memorial Park Cemetery plot styles one, three and six



Figure 36: Memorial Park Cemetery style two

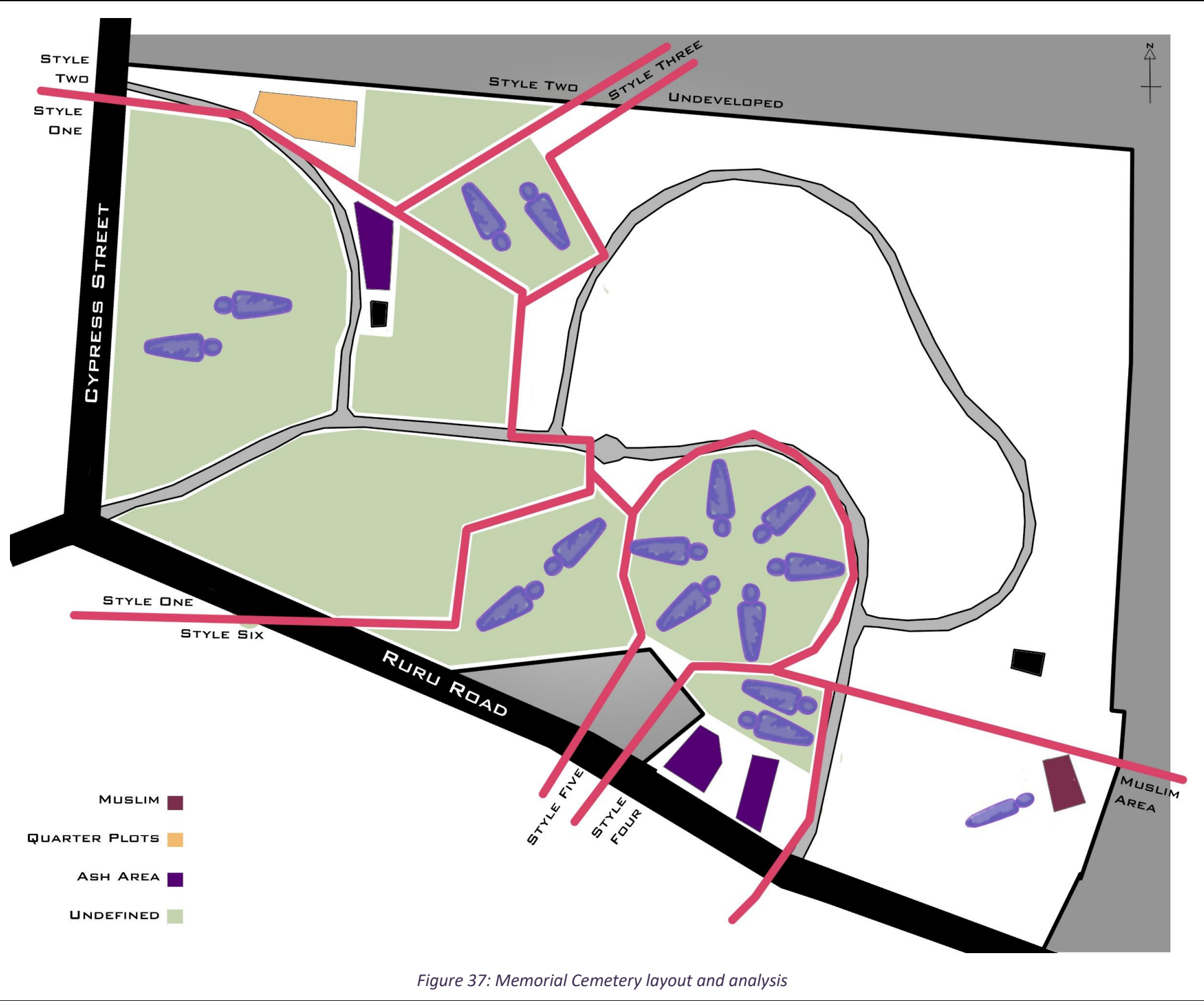


Figure 37: Memorial Cemetery layout and analysis



## 5.2 Private Interment Grounds

The lack of private interment landscapes can be due to money, interment landscapes in Aotearoa New Zealand are not set up to generate income. Burial plots are sold once and then the grounds and utilities must be maintained. Any interment ground can be handed over to the council to maintain if the original landowners can no longer or wishes to no longer maintain it (Burial and Cremation Act 1964). Mount Magdala was originally a privately-operated churchyard, however, it was handed over to the Christchurch City Council to maintain and manage.

### 5.2.1 Canterbury Cremation Society Gardens

The Canterbury Cremation Society operates two large gardens, one in Harewood and the other in Linwood. They provide cremation services and various locations for ash interment within their gardens (Terry pers comm, 2018). Garden styles range from formal roses to native trees. Plaques also accompany the internment. Columbaria are also located through the gardens [Figure 38].



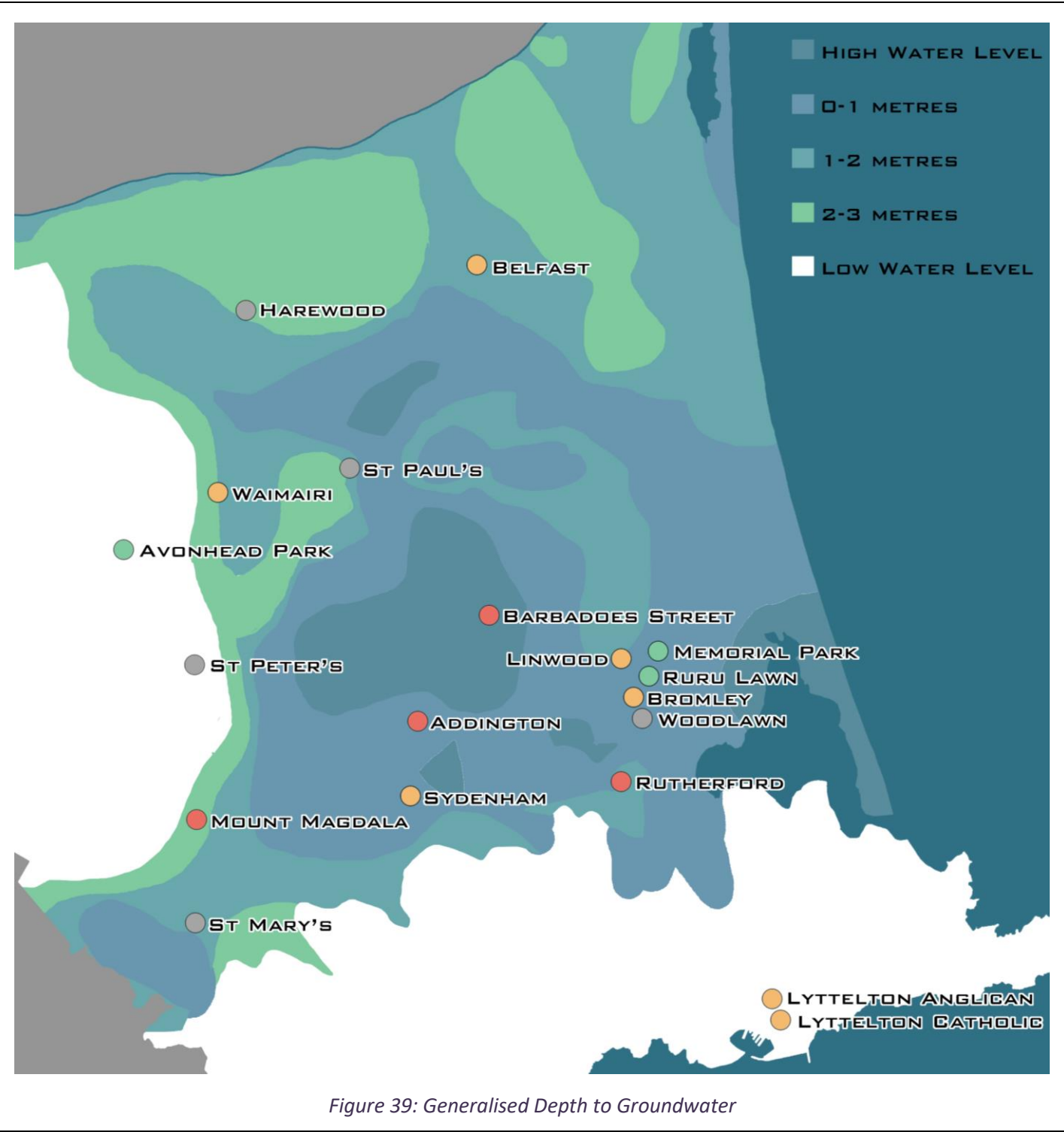
Figure 38: Columbaria at Woodlawn Gardens

### 5.2.2 Churchyards

During this research four churchyards were identified, all of which were associated with the Anglican denomination. None of these churchyards were identified as open for burials, however, some are accepting cremated remains (Carley pers comm, 2018; St Peter's Anglican Parish, n.d).

St Paul's, Papanui, is an Anglican churchyard which had not buried a body on site since before the earthquakes. It is having issues with an increasing water table, which is preventing them from interring bodies on their site (Carley pers comm, 2018). During the winter months, the site is too wet and the walls of the plot cave in quickly and the current Reverend is aware of past burials occurring only in the summer months (Carley pers comm, 2018). The church has established a memorial wall within their grounds for their parish members (Carley pers comm, 2018). The majority of their congregation are willing to be interred in the Council Cemeteries, but those who are intent on being buried within an Anglican churchyard can be interred further north in Woodend, Waimakariri, or in Selwyn's West Melton (Carley pers comm, 2018).

Figure 39 overlays a generalised water table map which has been developed using GIS data from Environment Canterbury (2017) and a map supplied by Christchurch City Council. This map shows that a significant number of public cemeteries are within high water table areas, including two open cemeteries; Memorial Park and Ruru Lawn.



5.3 Christchurch Interment Grounds Summary

Christchurch City Council is moving away from segregated interment landscapes and working on providing more integrated landscapes but has yet to provide a fully integrated interment site. It is also

developing new areas to fulfil a limited request for natural and green burial sites, however, these sites will likely continue to be in the more rural areas.

## 6. Interment Analysis

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Throughout this research several current issues regarding interment landscapes became prevalent. This chapter summarises the current interment issues and then using scenario analysis, concepts and potential outcomes are explored.

### 6.1 *Current Interment Issues*

Through this research, several issues relating to interment in Aotearoa New Zealand have been identified. The issues have been grouped into five key areas; the availability of land, cultural inclusion, interment of cremated remains, the age of the legislation and environmental changes and impacts.

The most pressing issue is the reducing land availability for interment, combined with Aotearoa New Zealand's growing population. Interment landscapes are not the preferred land use, as development for roads or housing provides more economic return for businesses. This lack of economic return has reduced the number of private interment sites, forcing councils to manage and provide adequate interment sites (Burial and Cremation Act 1964, s4(1)). In Christchurch's current interment sites are filling up and new locations and new management styles need to be considered. In providing interment landscapes for its population a council is able to utilise provisions under the Public Works Act 1981 to take land for burial purposes (Burial and Cremation Act 1964, s4(3)). However, there needs to be further assessment of potential sites. Also, alternative management systems need to be considered to future proof any new interment sites.

Cemetery plots are often going unutilised, as pre-purchased sites remain vacant. Records of cemeteries have often been lost or poorly recorded over time. As headstones deteriorate often the records are lost forever. Today's modern technology has made society more mobile and people are more frequently relocating to different areas, nationally and internationally. As people move away from their towns and cities they leave their pre-purchased plots behind, and sometimes family funeral plans may change. This also results in unfulfilled denominational specified areas.

Historically, the European colonists dominated cultural practices including those for interment. Interment landscapes were commonly segregated, providing set spaces for individual denominations. Sometimes specific denominational sites are left unfilled as the cultural group that originally requested them have moved on or developed new practices. For example, the White Russian section of the Memorial Park Cemetery in Christchurch, though not highlighted on any maps, remains underutilised and if not designated could have been filled five times over (Smith, 2018a). Now as society has developed, and segregations have softened between denominations, interment landscapes need to reflect Aotearoa New Zealand's diverse cultural identities. Exploration of a variety of cultural interment preferences need to be considered and sites would be more accommodating. Developing successful integrated interment sites will help to strengthen Aotearoa New Zealand's identity, providing a sense of place.

The popularity of cremation has increased and along with it the practice of scattering the cremated remains. Though this can help reduce the need for burial landscapes, the trend is raising issues for

vulnerable landscapes (Cemeteries and Cremation Conference Panel Discussion, 2018). Large volumes of cremated remains being placed within vulnerable landscapes, like botanical gardens, is causing the vegetation to die. Vegetation is susceptible to calcium build-up from excessive scatterings. There is also concern amongst those within the industry that these scatterings are going unrecorded or un-memorialised and family records are being lost for future generations. There are also ethical issues as people such as gardeners in the Botanical Gardens do not realise that they are dealing with cremated remains. This could be problematic for specific cultures too.

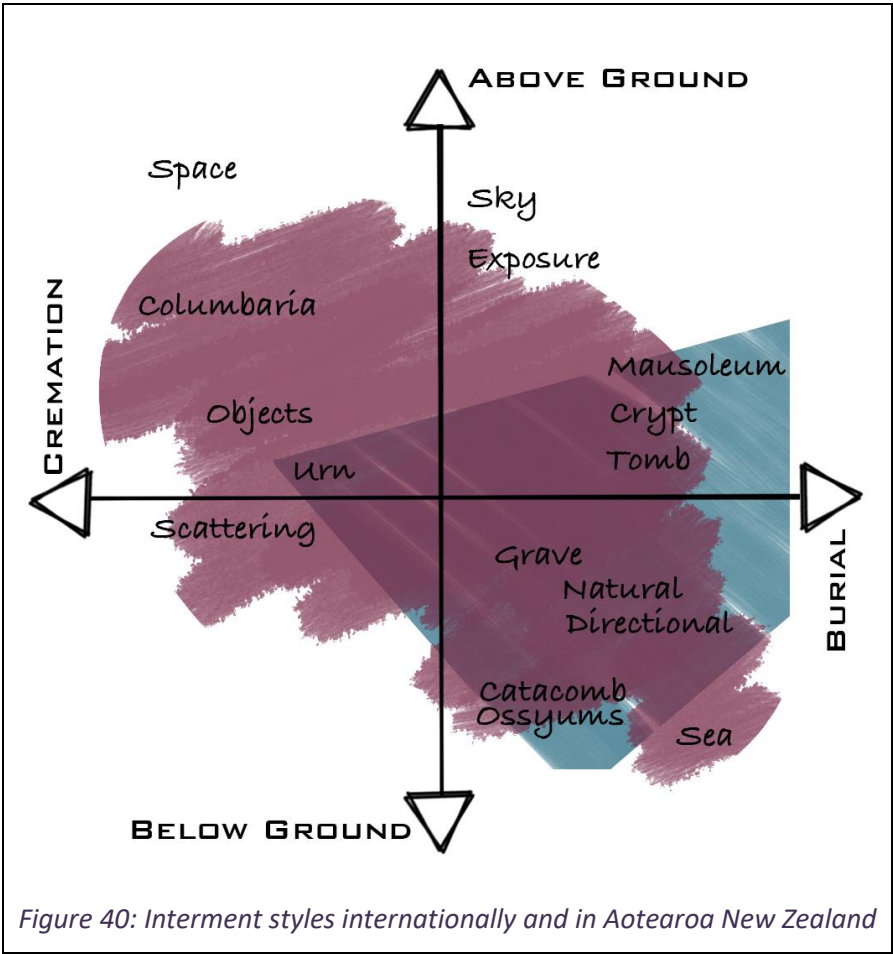
The burial legislation has remained relatively unchanged since it was established in the 1960s. The legislations age is of concern to many within the industry as it does not include or aid the development of new interment practices. In 2015 the Law Commission completed a review of the Burial and Cremation Act 1962 (Law Commission, 2015). However, the review has not proceeded further and the address at the Cemeteries and Cremation Collective of New Zealand’s 2018 conference suggested that it was likely another review was to occur before changes would progress (Gilbert, 2018).

The environment is changing, and interment landscapes are especially susceptible, as they are often the last to be considered. Burial landscapes are contaminated lands, as the chemicals that humans consume, and the chemicals placed within bodies before interment leaches into the soil. Therefore, the choice of location needs to be carefully considered as it cannot easily be reused. A rising water table level can aid the chemical leaching into water and even drinking sources. These landscapes are also susceptible to a high-water table, as bodies in Christchurch are commonly buried below the ground and most of the grounds within the central Christchurch area are in areas with high water levels. The 2010, and 2011 Christchurch Earthquakes also demonstrated how vulnerable interment landscapes are,

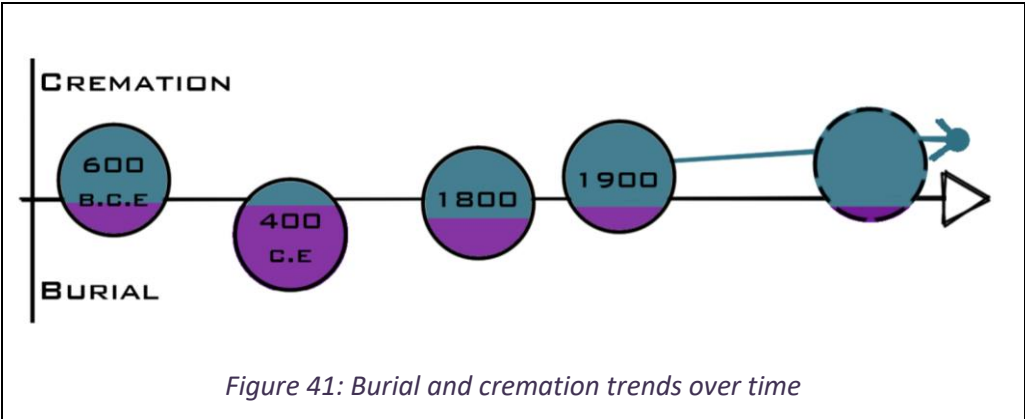
especially their monuments. During these earthquakes, many monuments were knocked off their platforms and destroyed, and the council’s funds are inadequate to repair all of them. Christchurch City Council also does not have any interment sites that are suitable for a mass emergency (Manning, 2018). When disasters strike, through events such as earthquakes or pandemics, bodies often need to be interred quickly and in substantial numbers (Manning, 2018).

6.2 Scenarios

Interment practices in Aotearoa New Zealand and internationally have been overlaid [Figure 40]. Though internationally there is a wider range of interment styles, the review of key issues in Aotearoa New Zealand is focused on the spatial planning of interment sites.

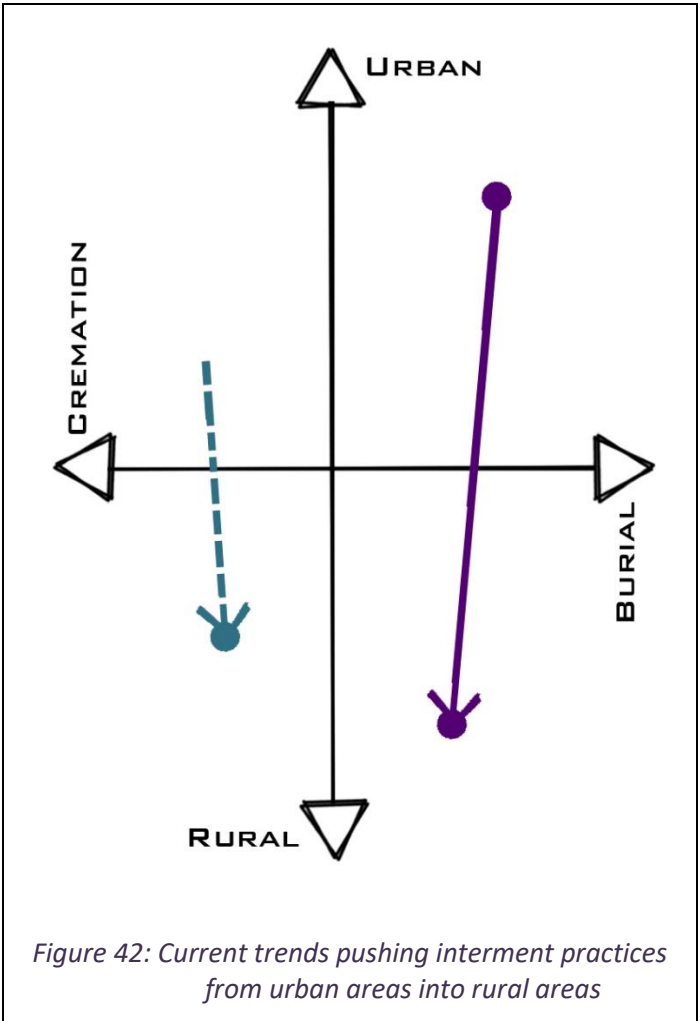


Cremation has recently been proven to be the most popular interment style within Aotearoa New Zealand, with over eighty per cent opting to be cremated. However, through history cremation has gone in and out of favour [Figure 41]. Some within the industry have seen a slight increase in younger groups requesting burials. Other pressures, particularly land availability, have resulted in higher cost of burial, and it is likely that the preference for cremation will significantly decrease in the foreseeable future. However, burial will not completely disappear. Burial is a required traditional practice for some cultural groups in Aotearoa New Zealand, particularly for Muslim and Jewish.



### 6.2.1 Location

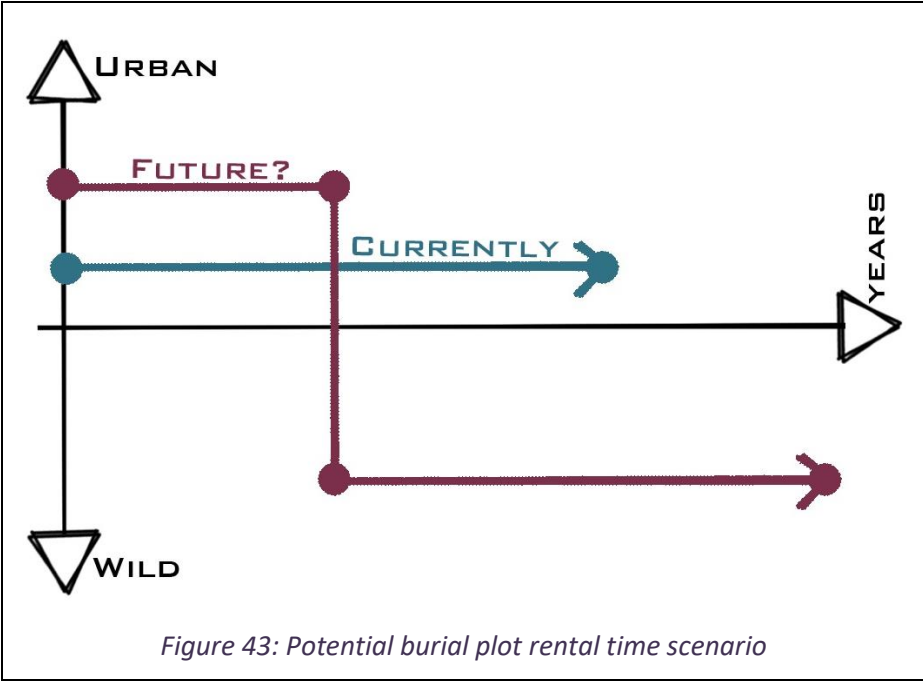
Burial is being forced out of urban areas. Historically, this was due to health concerns, but now the main reason is urban development [Figure 42]. How can we keep internment grounds within the urban area? Though cremated remains can currently be scattered just about anywhere, Bylaws are often pushing ashes into more rural areas. The build-up of ash is a common issue in urban planted areas, as the vegetation struggles to decompose the high calcium levels (Cemeteries and Cremation Conference Panel Discussion, 2018).



Internationally, particularly in Europe, renting burial plots has been used as a way to combat shrinking land availability for interment landscapes. This practice also creates more revenue for the landowner, with proceeds used to maintain the grounds to a higher standard. This renting system could be utilised in Aotearoa New Zealand. Reusing plots would allow for interment landscapes to remain within city limits, where they are more likely to be visited and the reuse would ensure that the site is not neglected. Brownfields could be ideal locations as the sites already have some level of contamination. Further research would need to be undertaken to determine an appropriate rental time span [Figure 43]. This may not

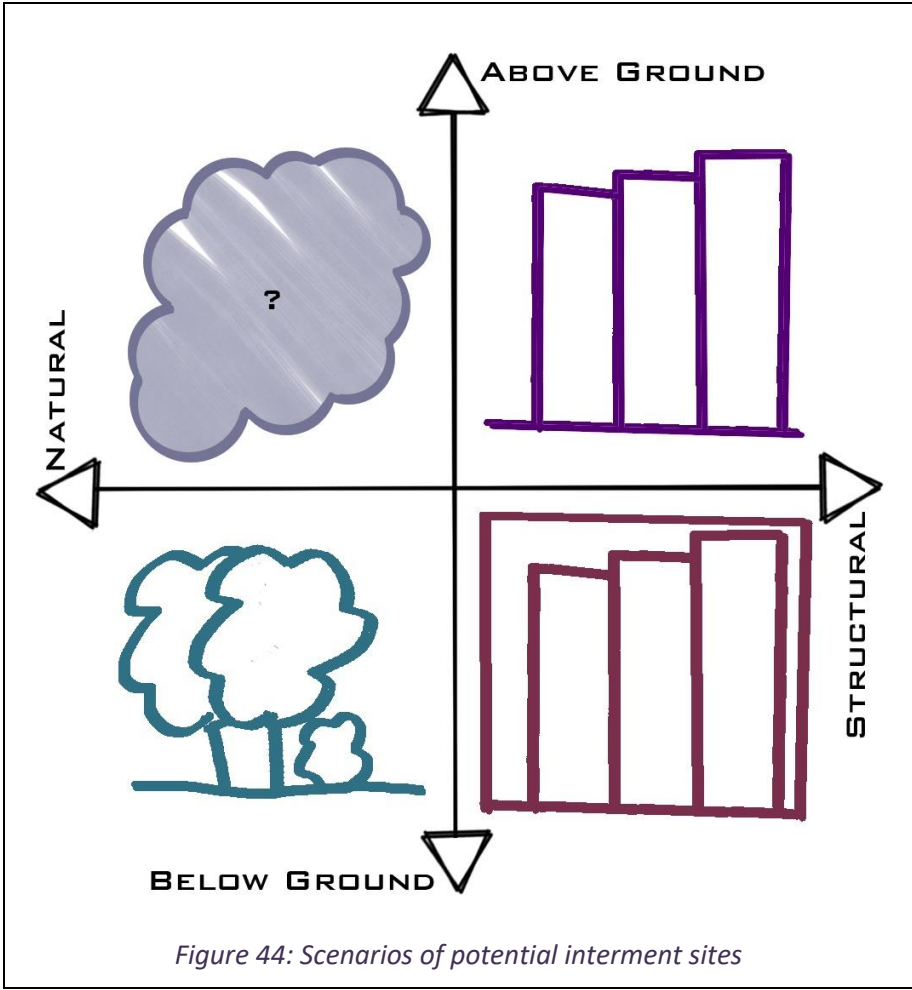


work for some cultural groups, but for others typically after one generation the connection to the deceased is lost or loosened. As the family connection to the remains decreases they could be moved to these more isolated natural locations.



After exhumation has occurred on the rented burial plots, storing of the remaining bones, either cremated or whole bones could bring about a wider range of interment landscapes. This could be located within buildings or even within national parks. Locating remains within a national park would help to deter development of the area, adding an extra level of protection and even potentially grow national parks. Interment sites could be developed above ground as this would accommodate for sea level rise and land issues.

In exploring locations for interment site; using the extremes of two features four styles were identified [Figure 44].



Structural, above ground, interment landscapes have already been developed internationally, some historically. Aotearoa New Zealand could follow suit by creating large indoor, multi-level spaces to hold bodies and cremated remains. These structures could easily be placed in urban areas. They would protect the remains from both environmental and human damage. Aotearoa New Zealand does not have significant underground landscapes. Building interment landscape underground would be difficult in high water areas and for Christchurch, this would likely push the underground structure further out of the populated areas.

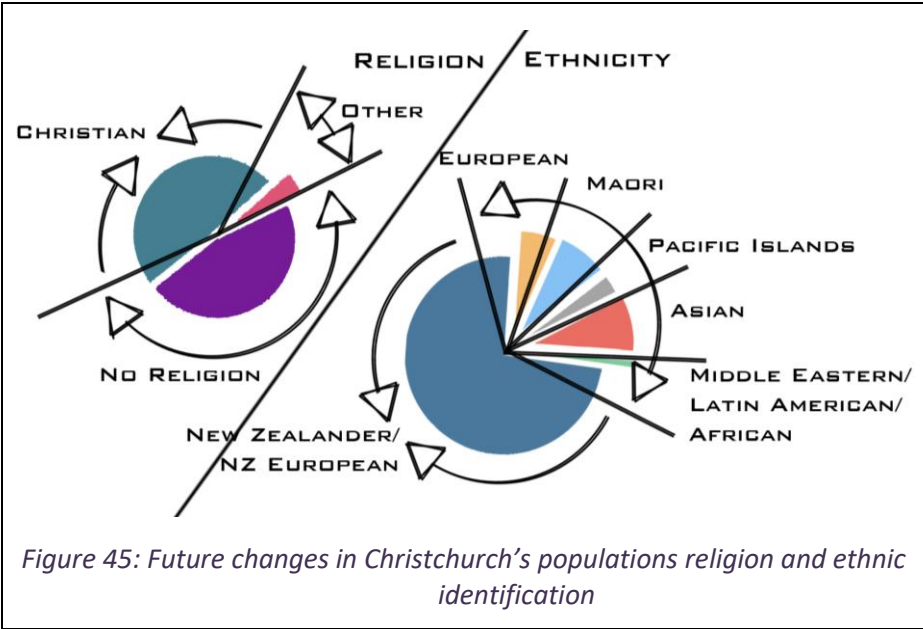
Could there be a natural above ground treatment and storage of bodies? Māori were identified as historically having used exposure



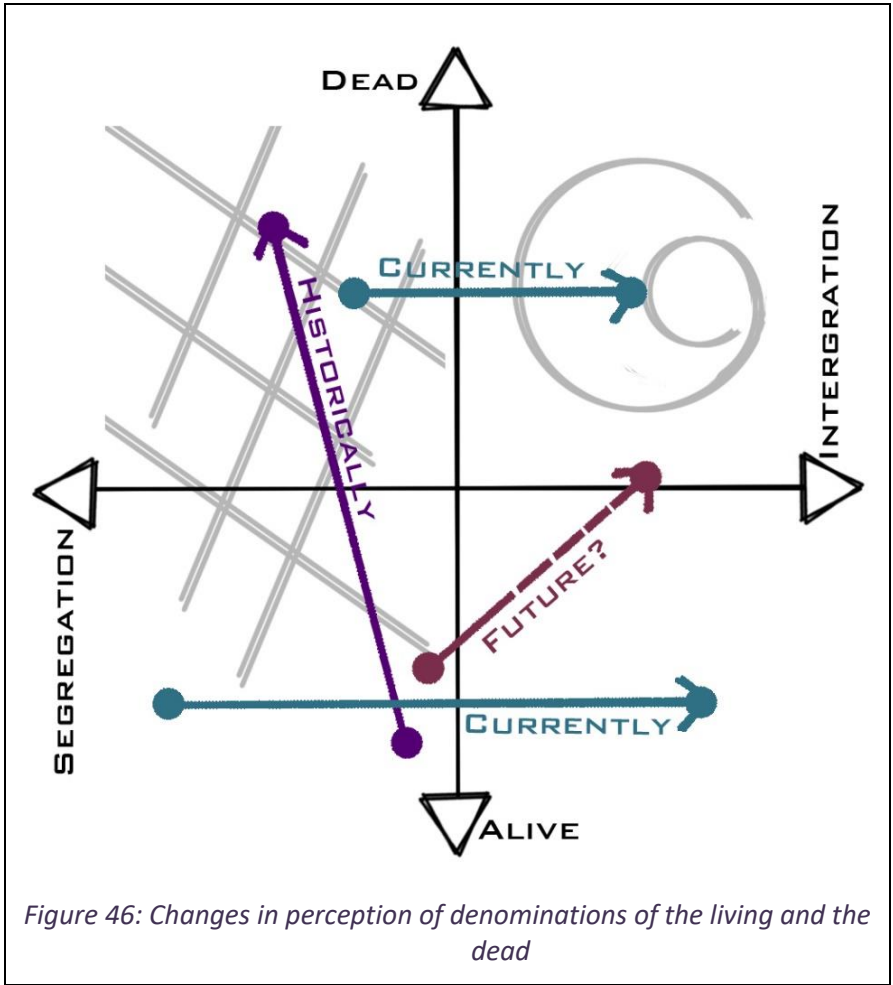
burial, but the number of people to be interred could be an issue within contemporary cities and a society that is becoming less familiar with the process after death. One solution could be that of a full decomposition process. This could be a process utilised for both bodies and cremated remains. This would be a version of natural burial where the bodies become fully integrated into the earth. Instead of taking away ashes, a family could take away fertile soil. These composting systems, as Doughty (2016) explains, could be integrated with ceremonies to complete and direct the grieving process as a non-religious culture develops.

6.2.2 Integration

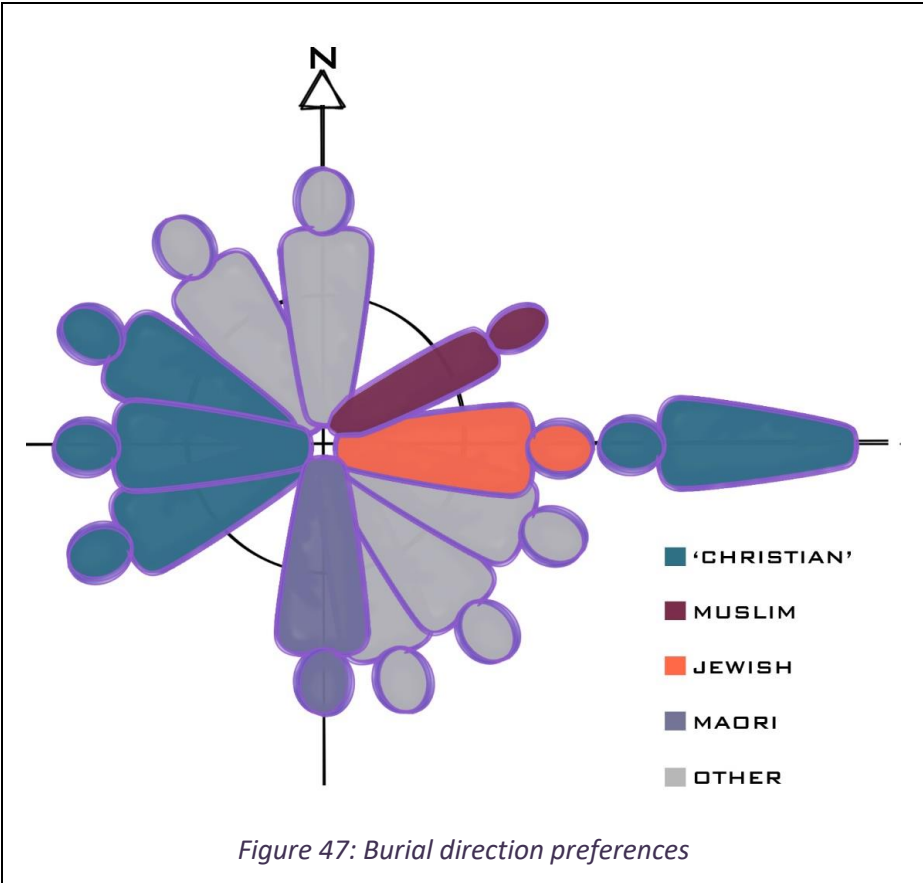
In comparing Christchurch religion and ethnic proportions over the last three censuses it can be predicted that ethnic diversity will continue to grow. As those identifying as New Zealanders or New Zealand European will continue to decrease, following trends identified in Auckland and Wellington [Figure 45].



In the religious statistics, those that identify with no religion will continue to increase along with other religions, as ethnic groups' growth will increase this, and proportionally, Christian based religions will decrease. Over time society has changed, and the integration of different denominations is increasing, for the living and the dead [Figure 46]. This is opening opportunities to design interment landscapes which can be utilised, in the future, by integrating all denominations within one landscape.



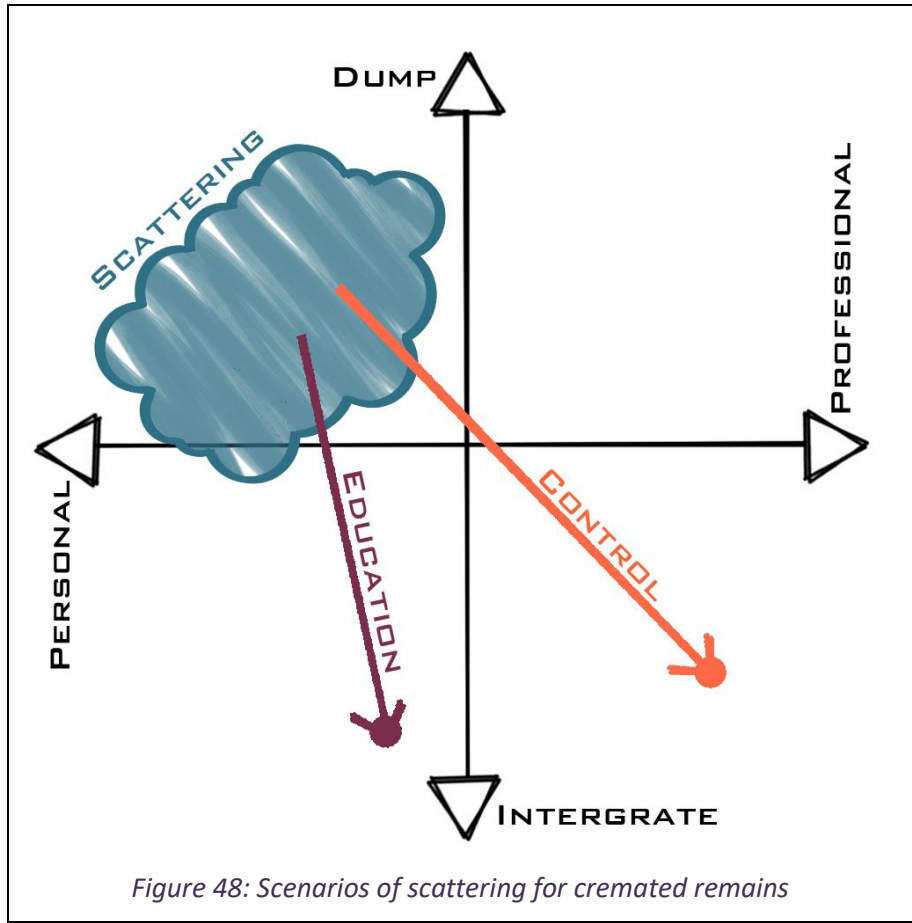
The following diagram could assist in designing new interment landscapes to ensure cultural groups’ preferred directions are available [Figure 47]. Christians are less concerned about which way they are placed and are more focused on the landscape and views. Muslims retain firm requirements on their direction of interment.



6.2.3 Ash Scattering

Cremation needs more guidance on what possibilities there are for the cremated remains. It is common for ashes to be placed in significant volumes in sensitive landscapes. Figure 48 explores options to reduce the risk of ashes negatively effecting sensitive landscapes. Interment landscape or transitional spaces are needed where ashes could be deposited and then integrated carefully within a landscape. Further education of the public could also help to control more respectful decisions when it comes to scattering ashes of their loved ones.

Services could also be provided by professionals to scatter ashes on behalf of the family or through a ceremony.

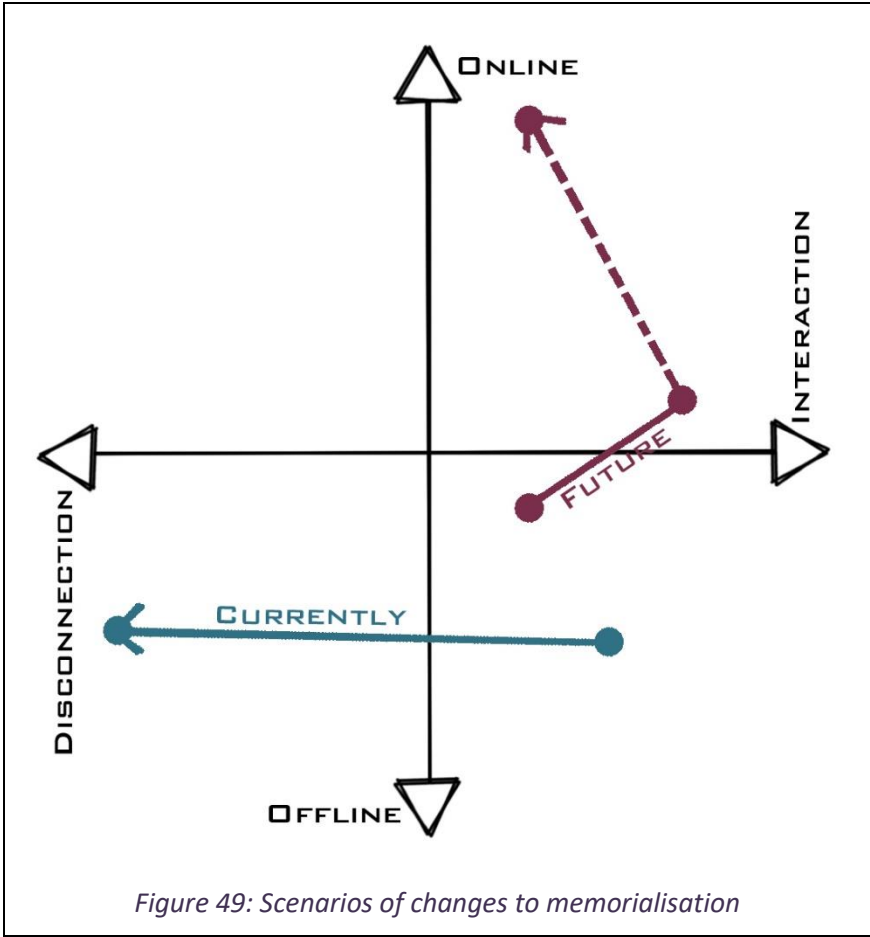


6.2.4 Memorialisation

Online memorialisation could play a key role in interment landscapes. More accurate records could be kept, and information can move as the remains do, as part of evolving practices in Aotearoa New Zealand. The younger generation is moving faster into the online world than their parents and this type of memorial may suit this generation. Figure 49 explores the potential changes that online memorialisation could have compared with current offline memorialisation. Currently the connection with the memorial and site decreases over time. Online memorialisation is more likely to remain more active over time and is harder to physically vandalise or to lose sight of.

6.3 Analysis Summary

As this chapter has illustrated, the trends in interment present a range of challenges and opportunities. Alongside the cultural trends, changes to the environment including water table and sea level rise, and concerns over sustainability in the use of fossil fuels, further challenge interment planning. Chapter 7 brings together the threads from the past and considers some potential future directions for research.



## 7. Conclusion and Recommendations

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Interment landscapes and processes are an important challenge for landscape planning. It is an area which is commonly neglected or overlooked. Aotearoa New Zealand's interment landscapes are not as diverse as they are internationally. Interment landscapes are often representations of a culture's history. Though many cultures have come to accept the interment styles that are available to them, Aotearoa New Zealand's culture is changing, and this should be reflected within interment landscapes. Planning interment landscapes is a complex planning issue that is in desperate need of attention.

At the planning scale, there are several factors which would influence the location of a new interment landscape for Christchurch these include:

- Water table level and the predicted future sea level rise, as interment sites can contaminate water sources.
- Transportation, people who have lost their loved one like to inter their body in a site where they can visit. Busy sites are generally more cared for and welcoming, than sites with no visitors, which are often susceptible to vandalism.
- Sustainability, as interment sites become contaminated sites, using a greenfield site is consuming more space that may be better suited for other uses, such as food production. Brownfield sites could be more beneficial, and they are often located close to the city. However, they may be difficult to develop without extensive mitigation.
- Interment methods and desires, the cultural interment practices requested, and the methods used to manage the site can influence the size of the site that is needed.

These factors indicate that one option could be to locate a new interment landscape within the city area, using innovative interment practices to mitigate potential issues, for example:

- Rental of burial plots. This is a widespread practice internationally, particularly in Europe, but not yet established here. This would require careful consideration of timeframes, exhumation processes and final resting places for the remaining remains. A process of exhumation and secondary resting places follows historic Māori practices, and could potentially be culturally compatible for both urupā and cemetery sites.
- Innovative design layout of interment landscapes could allow for efficient plot directions, accommodating a range of cultures and their practices.
- Using above ground interment techniques could create vertical interment landscapes, which are more space efficient, and do not encounter groundwater.
- Development into accelerating natural combustion processes within an inner-city context could create new rituals for a population increasingly identifying as having 'no religion'. It could also help to reduce issues from ash scattering, as the outcomes would produce more balanced organic matter rather than concentrated calcium remains.

The planning factors could also create opportunities for humans to interact with nature, for example:

- Online memorialisation could be used to keep people connected with interment landscapes beyond the urban form.

- Interment landscapes could help to regenerate and protect native forests.

In conclusion, this research has used a historic survey to identify the extensive range of interment practices internationally. Specific focus on Aotearoa New Zealand and Christchurch have highlighted the particular issues that interment faces nationally. Through scenario planning and attention to the qualities of the regional landscape, some possible futures have been sketched out.

#### *7.1.1 Further Research*

Through this research, further areas of study were identified which would enable in-depth analysis of specific issues or potential changes. Further research is needed to support landscape planning for interment grounds. This includes:

- Further analysis of social data, including population, immigration, religion and ethnic trends. Especially, social data on why people are choosing to identify with having ‘no religion’ could further predict future needs for interment practices.
- The World’s environment is changing and more specialised research into the effects of these wider environmental changes on specific areas and their interment landscape is needed. For example, changes in water table levels and the movement of chemicals within interment landscapes.
- Innovation in interment methods are also needed to be further investigated. while keeping in mind the needs of particular religious and cultural practices.

The reuse of plots is a potential solution in managing interment landscapes and public consultation could be utilised to gain feedback on appropriate lengths of times for this concept.

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9. Appendices

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# Appendix A

## *Ethics Approval*

Research Management Office

T 64 3 423 0817  
PO Box 85084, Lincoln University  
Lincoln 7647, Christchurch  
New Zealand  
[www.lincoln.ac.nz](http://www.lincoln.ac.nz)

**4 May 2018**

**Application No: 2018-10**

**Title:** Planning for death in the wake of New Zealand's changing cultural landscape: A Christchurch case study

**Applicant:** H Riordan

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*The Lincoln University Human Ethics Committee has reviewed the above noted application.*  
Thank you for your response to the questions which were forwarded to you on the Committee's behalf.

I am satisfied on the Committee's behalf that the issues of concern have been satisfactorily addressed. I am pleased to give final approval to your project.

Please note that this approval is valid for three years from today's date at which time you will need to reapply for renewal.

Once your field work has finished can you please advise the Human Ethics Secretary, Alison Hind, and confirm that you have complied with the terms of the ethical approval.

May I, on behalf of the Committee, wish you success in your research.

Yours sincerely



Grant Tavinor  
Chair, Human Ethics Committee

**PLEASE NOTE:** The Human Ethics Committee has an audit process in place for applications. Please see 7.3 of the Human Ethics Committee Operating Procedures (ACHE) in the Lincoln University Policies and Procedures Manual for more information.

# Appendix B

## Interview Questions

